

IEEE Communications Society
Publications Contents Digest
February/2021





Direct links to magazine and journals and full paper pdfs via IEEE Xplore

ComSoc Vice President – Publications – Robert Schober

Director – Journals – Michele Zorzi

Director – Magazines – Ekram Hossain

Magazine Editors

EIC, **IEEE Communications Magazine** – Tarek El-Bawab
AEIC, **IEEE Communications Magazine** – Antonio Sanchez-Esquavillas
EIC, **IEEE Network Magazine** – Chonggang Wang
AEIC, **IEEE Network Magazine** – David Soldani
EIC, **IEEE Wireless Communications Magazine** – Yi Qian
AEIC, **IEEE Wireless Communications Magazine** – Nirwan Ansari
EIC, **IEEE Communications Standards Magazine** – Zander Lei
AEIC, **IEEE Communications Standards Magazine** – Carlos Cordeiro
EIC, **IEEE Internet of Things Magazine** – Maurice Khabbaz
EIC, **China Communications** – Jianhua Lu

Journal Editors

EIC, **IEEE Transactions on Communications** – Tolga M. Duman
EIC, **IEEE Journal on Selected Areas in Communications (J-SAC)** – Raouf Boutaba
EIC, **IEEE Communications Letters** – Marco Di Renzo
EIC, **IEEE Communications Surveys & Tutorials** – Dusit Niyato
EIC, **IEEE Transactions on Network & Service Management (TNSM)** – Filip De Turck
EIC, **IEEE Wireless Communications Letters** – Kai Kit Wong
EIC, **IEEE Transactions on Wireless Communications** – Junshan Zhang
EIC, **IEEE Transactions on Mobile Communications** – Qian Zhang
EIC, **IEEE/ACM Transactions on Networking** – Ness Shroff
EIC, **IEEE/OSA Journal of Optical Communications & Networking (JOCN)** – Jane M. Simmons
EIC, **IEEE/OSA Journal of Lightwave Technology** – Gabriella Bosco
Co-EICs, **IEEE/KICS Journal of Communications & Networks (JCN)** – Anthony Ephremides | Inkyu Lee
EIC, **IEEE Transactions on Multimedia** – Jiebo Luo
EIC, **IEEE Transactions on Cloud Computing** – Yuanyuan Yang
EIC, **IEEE Transactions on Cognitive Communications and Networking** – Ying-Chang Liang
EIC, **IEEE Transactions on Molecular, Biological, and Multi-Scale Communications** – Chan-Byoung Chae
EIC, **IEEE Transactions on Signal and Information Processing over Networks** – Antonio Ortega
EIC, **IEEE Internet of Things Journal** – Honggang Wang
EIC, **IEEE Transactions on Green Communications** – Zhisheng Niu
EIC, **IEEE Journal on Biomedical Health Informatics** – Dimitrios I. Fotiadis
EIC, **IEEE Transactions on Network Science and Engineering** – Jianwei Huang
EIC, **IEEE Transactions on Smart Grid** – Claudio Cañizares
EIC, **IEEE Networking Letters** – George N. Rouskas
EIC, **IEEE Open Journal of the Communications Society** – Octavia A. Dobre

IEEE Communications Society
3 Park Avenue
New York, NY 10016 USA
212 705 8900

IEEE COMMUNICATIONS MAGAZINE

January 2021, vol. 59, no. 1

Front Cover

Publication Year: 2021,Page(s):C1 - C1
(643 Kb)

Cover 2

Publication Year: 2021,Page(s):C2 - C2
(789 Kb)

Table of Contents

Publication Year: 2021,Page(s):1 - 2
(655 Kb)

Comsoc Membership

Publication Year: 2021,Page(s):3 - 3
(519 Kb)

The Editor-in-Chief Page

New Year ... New Beginnings

Tarek S. El-Bawab

Publication Year: 2021,Page(s):4 - 4
(475 Kb)

Comsoc Training

Publication Year: 2021,Page(s):5 - 5
(326 Kb)

Society News

In Memoriam: Norman Abramson

Anthony Kuh;Norman Abramson

Publication Year: 2021,Page(s):6 - 7
(489 Kb)

Conference Calendar

Publication Year: 2021,Page(s):8 - 8
(458 Kb)

Global Communications Newsletter

Stefano Bregni;Ricardo Veiga;Amit Patel;TSN Murthy

Publication Year: 2021,Page(s):9 - 12
(1081 Kb)

Call for Papers

Publication Year: 2021,Page(s):13 - 13
(439 Kb)

Communication Technologies for Robotics and Autonomous Systems

Guest Editorial: Communication Technologies for Robotics and Autonomous Systems

Syed A. R. Zaidi;Jemin Lee;Ursula Challita;Moe Z. Win

Publication Year: 2021,Page(s):14 - 15
(524 Kb)

Improving 802.11p for Delivery of Safety-Critical Navigation Information in Robot-to-Robot Communication Networks

Jennifer Gielis;Amanda Prorok

Publication Year: 2021,Page(s):16 - 21
(5976 Kb)

Communications and Robotics Simulation in UAVs: A Case Study on Aerial Synthetic Aperture Antennas

Miguel Calvo-Fullana;Alexander Pyattaev;Daniel Mox;Sergey Andreev;Alejandro Ribeiro

Publication Year: 2021,Page(s):22 - 27
(747 Kb)

Edge Computing Assisted Autonomous Flight for UAV: Synergies between Vision and Communications

Quan Chen;Hai Zhu;Lei Yang;Xiaoqian Chen;Sofie Pollin;Evgenii Vinogradov

Publication Year: 2021,Page(s):28 - 33
(1018 Kb)

A Vision of an XR-Aided Teleoperation System toward 5G/B5G

Fenghe Hu;Yansha Deng;Hui Zhou;Tae Hun Jung;Chan-Byoung Chae;A. Hamid Aghvami

Publication Year: 2021,Page(s):34 - 40
(839 Kb)

3GPP New Radio Release 16: Evolution of 5G for Industrial Internet of Things

Sangkyu Baek;Donggun Kim;Milos Tesanovic;Anil Agiwal

Publication Year: 2021,Page(s):41 - 47
(635 Kb)

5G Swarm Production: Advanced Industrial Manufacturing Concepts Enabled by Wireless Automation

Ignacio Rodriguez;Rasmus S. Mogensen;Allan Schjørring;Mohammad Razzaghpour;Roberto Maldonado;Gilberto Berardinelli;Ramon Adeogun;Per H. Christensen;Preben Mogensen;Ole Madsen;Charles Møller;Guillermo Pocovi;Troels Kolding;Claudio Rosa;Brian Jørgensen;Simone Barbera

Publication Year: 2021,Page(s):48 - 54
(936 Kb)

A High-End IoT Devices Framework to Foster Beyond-Connectivity Capabilities in 5G/B5G Architecture

Debashisha Mishra;Nicola Roberto Zema;Enrico Natalizio

Publication Year: 2021,Page(s):55 - 61
(942 Kb)

Mobile Communications and Networks

Series Editorial: Mobile Communications and Networks

Tom Alexander;Ilker Demirkol;Amitabh Mishra;Alberto Perotti

Publication Year: 2021,Page(s):62 - 63
(502 Kb)

The Road to 6G: Ten Physical Layer Challenges for Communications Engineers

Michail Matthaiou;Okan Yurduseven;Hien Quoc Ngo;David Morales-Jimenez;Simon L. Cotton;Vincent F. Fusco

Publication Year: 2021,Page(s):64 - 69
(945 Kb)

Position Location for Futuristic Cellular Communications: 5G and Beyond

Ojas Kanhere;Theodore S. Rappaport

Publication Year: 2021,Page(s):70 - 75
(589 Kb)

Measuring and Monitoring Reliability of Wireless Networks

Matthias Herlich;Christian Maier

Publication Year: 2021,Page(s):76 - 81
(650 Kb)**DRX in New Radio Unlicensed: A Step Beyond 5G Wireless**

Navrati Saxena;Abhishek Roy;Mukesh Kumar Maheswari;Eshita Rastogi;Dong Ryeol Shin

Publication Year: 2021,Page(s):82 - 88
(857 Kb)**Modulation Compression in Next Generation RAN: Air Interface and Fronthaul Trade-offs**

Sandra Lagén;Lorenza Giupponi;Andreas Hansson;Xavier Gelabert

Publication Year: 2021,Page(s):89 - 95
(967 Kb)**Aerial Platforms with Reconfigurable Smart Surfaces for 5G and Beyond**

Safwan Alfattani;Wael Jaafar;Yassine Hmamouche;Halim Yanikomeroglu;Abbas Yongaçoglu;Ngoc Dũng Đào;Peiyong Zhu

Publication Year: 2021,Page(s):96 - 102
(1046 Kb)**High Altitude Platform Station Based Super Macro Base Station Constellations**

Md Sahabul Alam;Gunes Karabulut Kurt;Halim

Yanikomeroglu;Peiyong Zhu;Ngoc Dũng Đào

Publication Year: 2021,Page(s):103 - 109
(2986 Kb)**Banket: Bandwidth Market for Building a Sharing Economy in Mobile Networks**

Yu Nakayama;Ryoma Yasunaga;Kazuki Maruta

Publication Year: 2021,Page(s):110 - 116
(811 Kb)**Call for Papers**Publication Year: 2021,Page(s):117 - 117
(433 Kb)**Optical Communications and Networks****Series Editorial: Optical Communications and Networks**

Mohamed-Slim Alouini;Xiang Liu;Zuqing Zhu

Publication Year: 2021,Page(s):118 - 118
(480 Kb)**Optical Wireless Communications for In-Body and Transdermal Biomedical Applications**

Alexandros-Apostolos A. Boulogeorgos;Stylianos E.

Trevlakis;Nestor D. Chatzidiamantis

Publication Year: 2021,Page(s):119 - 125
(781 Kb)**Analog Radio-over-Fiber-Aided Optical-Domain MIMO Signal Processing for High-Performance Low-Cost Radio Access Networks**

Yichuan Li;Fasong Wang;Mohammed El-Hajjar;Lajos Hanzo

Publication Year: 2021,Page(s):126 - 132
(902 Kb)**The Role of Digital Twin in Optical Communication: Fault Management, Hardware Configuration, and Transmission Simulation**

Danshi Wang;Zhiguo Zhang;Min Zhang;Meixia Fu;Jin Li;Shanyong Cai;Chunyu Zhang;Xue Chen

Publication Year: 2021,Page(s):133 - 139
(2765 Kb)**Photoacoustic Communication from the Air to Underwater Based on Low-Cost Passive Relays**

Zhong Ji;Yong Fu;Jinliang Li;Zhijuan Zhao;Wenjie Mai

Publication Year: 2021,Page(s):140 - 143
(698 Kb)**Call for Papers**Publication Year: 2021,Page(s):144 - 144
(442 Kb)**Cover 3**Publication Year: 2021,Page(s):C3 - C3
(561 Kb)**Cover 4**Publication Year: 2021,Page(s):C4 - C4
(187 Kb)

IEEE WIRELESS COMMUNICATIONS

February 2021, Vol. 28, No. 1

Front Cover

Publication Year: 2021,Page(s):C1 - C1
(808 Kb)

Cover 2

Publication Year: 2021,Page(s):C2 - C2
(531 Kb)

Table of Contents

Publication Year: 2021,Page(s):1 - 1
(451 Kb)

Message from the Editor-in-Chief

Wireless Communications in the New Decade

Yi Qian

Publication Year: 2021,Page(s):2 - 3
(471 Kb)

Industry Perspectives

5G Evolution: What's Next?

Balazs Bertenyi

Publication Year: 2021,Page(s):4 - 8
(951 Kb)

Masthead

Publication Year: 2021,Page(s):9 - 9
(548 Kb)

Full Duplex Communications Theory, Standardization, and Practice

Guest Editorial: Full Duplex Communications Theory, Standardization, and Practice

Gábor Fodor;Chan-Byoung Chae;Risto Wichman;Ashutosh Sabharwal;Himal A. Suraweera;Raghu Rao;Hirley Alves

Publication Year: 2021,Page(s):10 - 11
(537 Kb)

Analog Least Mean Square Adaptive Filtering for Self-Interference Cancellation in Full Duplex Radios

Anh Tuyen Le;Le Chung Tran;Xiaojing Huang;Y. Jay Guo;Lajos Hanzo

Publication Year: 2021,Page(s):12 - 18
(914 Kb)

Call for Papers

Publication Year: 2021,Page(s):19 - 19
(447 Kb)

Integrated Linear and Nonlinear Digital Cancellation for Full Duplex Communication

Mikail Yilan;Ozgur Gurbuz;Huseyin Ozkan

Publication Year: 2021,Page(s):20 - 27
(733 Kb)

Adaptive Beamforming for Multi-Function In-Band Full-Duplex Applications

Kenneth E. Kolodziej;Jonathan P. Doane;Bradley T. Perry;Jeffrey S. Herd

Publication Year: 2021,Page(s):28 - 35
(1640 Kb)

Millimeter-Wave Full Duplex Radios: New Challenges and Techniques

Ian P. Roberts;Jeffrey G. Andrews;Hardik B. Jain;Sriram Vishwanath

Publication Year: 2021,Page(s):36 - 43
(682 Kb)

Full Duplex and Dynamic TDD: Pushing the Limits of Spectrum Reuse in Multi-Cell Communications

José Mairton B. da Silva;Gustav Wikström;Ratheesh K. Mungara;Carlo Fischione

Publication Year: 2021,Page(s):44 - 50
(2275 Kb)

Interference Handling Challenges toward Full Duplex Evolution in 5G and Beyond Cellular Networks

Ramez Askar;Jaehoon Chung;Zhiheng Guo;Hyunsoo Ko;Wilhelm Keusgen;Thomas Haustein

Publication Year: 2021,Page(s):51 - 59
(1555 Kb)

Design of Full Duplex Millimeter-Wave Integrated Access and Backhaul Networks

Junkai Zhang;Navneet Garg;Mark Holm;Tharmalingam Ratnarajah

Publication Year: 2021,Page(s):60 - 67
(1114 Kb)

When Buffer-Aided Relaying Meets Full Duplex and NOMA

Nikolaos Nomikos;Themistoklis Charalambous;Demosthenes Vouyioukas;George K. Karagiannidis

Publication Year: 2021,Page(s):68 - 73
(699 Kb)

Toward URLLC: A Full Duplex Relay System with Self-Interference Utilization or Cancellation

Yufei Jiang;Hanjun Duan;Xu Zhu;Zhongxiang Wei;Tong Wang;Fu-Chun Zheng;Sumei Sun

Publication Year: 2021,Page(s):74 - 81
(1095 Kb)

Full Duplex Radio/Radar Technology: The Enabler for Advanced Joint Communication and Sensing

Carlos Baquero Barneto;Sahan Damith Liyanaarachchi;Mikko Heino;Tanelli Riihonen;Mikko Valkama

Publication Year: 2021,Page(s):82 - 88
(1159 Kb)

Call for Papers

Publication Year: 2021,Page(s):89 - 89
(444 Kb)

Accepted from Open Call

Ultimate Capacity Analysis of Orbital Angular Momentum Channels

Ashwini Sawant;Ingeun Lee;Bang Chul Jung;EunMi Choi
Publication Year: 2021,Page(s):90 - 96
(984 Kb)

Pilot-Based Physical-Layer Authentication with High Covertiness

Ning Xie;Yicong Chen
Publication Year: 2021,Page(s):97 - 103
Cited by: [Papers \(1\)](#)
(726 Kb)

Energy Self-Sustainability in Full-Spectrum 6G

Jie Hu;Qing Wang;Kun Yang
Publication Year: 2021,Page(s):104 - 111
(1267 Kb)

A Vision to Smart Radio Environment: Surface Wave Communication Superhighways

Kai-Kit Wong;Kin-Fai Tong;Zhiyuan Chu;Yangyang Zhang
Publication Year: 2021,Page(s):112 - 119
(907 Kb)

Artificial Intelligence Aided Next-Generation Networks Relying on UAVs

Xiao Liu;Mingzhe Chen;Yuanwei Liu;Yue Chen;Shuguang Cui;Lajos Hanzo
Publication Year: 2021,Page(s):120 - 127
Cited by: [Papers \(1\)](#)
(905 Kb)

Mobile Communications Beyond 52.6 GHz: Waveforms, Numerology, and Phase Noise Challenge

Toni Levanen;Oskari Tervo;Kari Pajukoski;Markku Renfors;Mikko Valkama
Publication Year: 2021,Page(s):128 - 135
(794 Kb)

Measurement-Based Coexistence Studies of LAA & Wi-Fi Deployments in Chicago

Vanlin Sathya;Muhammad Iqbal Rochman;Monisha Ghosh
Publication Year: 2021,Page(s):136 - 143
(1209 Kb)

Energy Efficient 100+ GHz Transceivers Enabling Beyond-5G Wireless Communications

Payam Heydari;Huan Wang;Hossein Mohammadnezhad;Peyman Nazari
Publication Year: 2021,Page(s):144 - 151
(1052 Kb)

Computational Models of Human Decision-Making with Application to the Internet of Everything

Setareh Maghsudi;Max Davy
Publication Year: 2021,Page(s):152 - 159
(698 Kb)

Usage of Network Simulators in Machine-Learning-Assisted 5G/6G Networks

Francesc Wilhelmi;Marc Carrascosa;Cristina Cano;Anders Jonsson;Vishnu Ram;Boris Bellalta
Publication Year: 2021,Page(s):160 - 166
(767 Kb)

Aerial-Ground Interference Mitigation for Cellular-Connected UAV

Weidong Mei;Rui Zhang
Publication Year: 2021,Page(s):167 - 173
(998 Kb)

Scanning the Literature

Publication Year: 2021,Page(s):174 - 174
(448 Kb)

Cover 3

Publication Year: 2021,Page(s):C3 - C3
(537 Kb)

Cover 4

Publication Year: 2021,Page(s):C4 - C4
(561 Kb)

Front Cover

Publication Year: 2021,Page(s):C1 - C1
(533 Kb)

Cover 2

Publication Year: 2021,Page(s):C2 - C2
(326 Kb)

Table of Contents

Publication Year: 2021,Page(s):1 - 2
(566 Kb)

Industry Perspectives/Edited by Latif Ladid

2021 Internet Perspectives

Vinton G. Cerf

Publication Year: 2021,Page(s):3 - 3
(463 Kb)

Industry Perspectives

A New Approach to Data Sharing and Distributed Ledger Technology: A Clinical Trial Use Case

David F. Ferraiolo;Joanna F. DeFranco;D. Richard Kuhn;Joshua D. Roberts

Publication Year: 2021,Page(s):4 - 5
(484 Kb)

Scanning the Literature

Xiaohua Tian

Publication Year: 2021,Page(s):6 - 7
(466 Kb)

Invited Article

Data Management for Future Wireless Networks: Architecture, Privacy Preservation, and Regulation

Xuemin Sherman Shen;Cheng Huang;Dongxiao Liu;Liang Xue;Weihua Zhuang;Rob Sun;Bidi Ying

Publication Year: 2021,Page(s):8 - 15
(781 Kb)

Blockchain Envisioned Drones: Realizing 5G-Enabled Flying Automation

Guest Editorial: Blockchain Envisioned Drones: Realizing 5G-Enabled Flying Automation

Sahil Garg;Gagangeet Singh Aujla;Aiman Erbad;Joel J. P. C. Rodrigues;Min Chen;Xianbin Wang

Publication Year: 2021,Page(s):16 - 19
(598 Kb)

Blockchain-Based UAV Path Planning for Healthcare 4.0: Current Challenges and the Way Ahead

Shubhani Aggarwal;Neeraj Kumar;Musaed Alhussein;Ghulam Muhammad

Publication Year: 2021,Page(s):20 - 29
(1231 Kb)

Exploiting 5G and Blockchain for Medical Applications of Drones

Junxin Chen;Wei Wang;Yicong Zhou;Syed Hassan Ahmed;Wei Wei

Publication Year: 2021,Page(s):30 - 36
(1505 Kb)

Call for Papers

Publication Year: 2021,Page(s):37 - 37
(444 Kb)

Emerging Drone Trends for Blockchain-Based 5G Networks: Open Issues and Future Perspectives

Tao Han;Igor de L. Ribeiro;Naercio Magaia;João Preto;Afonso H. Fontes N. Segundo;Antônio Roberto L. de Macêdo;Khan Muhammad;Victor Hugo C. de Albuquerque

Publication Year: 2021,Page(s):38 - 43
(601 Kb)

Analysis of Using Blockchain to Protect the Privacy of Drone Big Data

Zhihan Lv;Liang Qiao;M. Shamim Hossain;Bong Jun Choi

Publication Year: 2021,Page(s):44 - 49
(813 Kb)

Blockchain-Based Privacy Preservation for 5G-Enabled Drone Communications

Yulei Wu;Hong-Ning Dai;Hao Wang;Kim-Kwang Raymond Choo

Publication Year: 2021,Page(s):50 - 56
(883 Kb)

Building Agile and Resilient UAV Networks Based on SDN and Blockchain

Ning Hu;Zhihong Tian;Yanbin Sun;Lihua Yin;Baokang Zhao;Xiaojiang Du;Nadra Guizani

Publication Year: 2021,Page(s):57 - 63
(1363 Kb)

Design Guidelines for Blockchain-Assisted 5G-UAV Networks

Moayad Aloqaily;Ouns Bouachir;Azzedine Boukerche;Ismaeel Al Ridhawi

Publication Year: 2021,Page(s):64 - 71
(864 Kb)

Blockchain-Empowered Trusted Networking for Unmanned Aerial Vehicles in the B5G Era

Xin Jian;Pengcheng Leng;Yanfeng Wang;Mubarak Alrashoud;M. Shamim Hossain

Publication Year: 2021,Page(s):72 - 77
(696 Kb)

Securing Data Sharing from the Sky: Integrating Blockchains into Drones in 5G and Beyond

Jiawen Kang;Zehui Xiong;Dusit Niyato;Shengli Xie;Dong In Kim

Publication Year: 2021,Page(s):78 - 85
(898 Kb)

Blockchain-Empowered Drone Networks: Architecture, Features, and Future

Zheng Chang;Wenlong Guo;Xijuan Guo;Tao Chen;Geyong Min;Khamael M. Abualnaja;Shahid Mumtaz

Publication Year: 2021,Page(s):86 - 93
(997 Kb)

Deep Learning and Blockchain with Edge Computing for 5G-Enabled Drone Identification and Flight Mode Detection

Abdu Gumaei;Mabrook Al-Rakhami;Mohammad Mehedi Hassan;Pasquale Pace;Gianluca Alai;Kai Lin;Giancarlo Fortino

Publication Year: 2021,Page(s):94 - 100
(899 Kb)

Sharding-Enabled Blockchain for Software-Defined Internet of Unmanned Vehicles in the Battlefield

Bimal Ghimire;Danda B. Rawat;Chunmei Liu;Jiang Li

Publication Year: 2021,Page(s):101 - 107
(708 Kb)

A Blockchain-Based Secure Crowd Monitoring System Using UAV Swarm

Wenjing Xiao;Miao Li;Bander Alzahrani;Reem Alotaibi;Ahmed Barnawi;Qingsong Ai

Publication Year: 2021,Page(s):108 - 115
(1262 Kb)

Blockchain-Powered Policy Enforcement for Ensuring Flight Compliance in Drone-Based Service Systems

Mohammad Saidur Rahman;Ibrahim Khalil;Mohammed Atiquzzaman

Publication Year: 2021,Page(s):116 - 123
(889 Kb)

Blockchain-Based Task Offloading in Drone-Aided Mobile Edge Computing

Shuyun Luo;Hang Li;Zhenyu Wen;Bin Qian;Graham Morgan;Antonella Longo;Omer Rana;Rajiv Ranjan

Publication Year: 2021,Page(s):124 - 129
(800 Kb)

Efficient and Secure Data Sharing for 5G Flying Drones: A Blockchain-Enabled Approach

Chaosheng Feng;Keping Yu;Ali Kashif Bashir;Yasser D. Al-Otaibi;Yang Lu;Shengbo Chen;Di Zhang

Publication Year: 2021,Page(s):130 - 137
(1080 Kb)

Learning-Based Edge Computing Services

Guest Editorial: Learning-Based Edge Computing Services

Min Chen;Haiyang Wang;Kai Hwang;Giancarlo Fortino;Jeungeun Song;Limei Peng;Jože Guna

Publication Year: 2021,Page(s):138 - 140
(646 Kb)

Edge-Learning-Enabled Realistic Touch and Stable Communication for Remote Haptic Display

Xiaosa Li;Zhiyong Yuan;Jianhui Zhao;Bo Du;Xiangyun Liao;Iztok Humar

Publication Year: 2021,Page(s):141 - 147
(818 Kb)

Toward Resource-Efficient Federated Learning in Mobile Edge Computing

Rong Yu;Peichun Li

Publication Year: 2021,Page(s):148 - 155
(877 Kb)

A Repository of Method Fragments for Agent-Oriented Development of Learning-Based Edge Computing Systems

Iván García-Magariño;Moustafa M. Nasralla;Jaime Lloret

Publication Year: 2021,Page(s):156 - 162
(959 Kb)

Stability-Based Analysis and Defense against Backdoor Attacks on Edge Computing Services

Yi Zhao;Ke Xu;Haiyang Wang;Bo Li;Ruoxi Jia

Publication Year: 2021,Page(s):163 - 169
(1196 Kb)

Intelligent Edge Learning for Personalized Crowdsourced Livecast: Challenges, Opportunities, and Solutions

Fangxin Wang;Jiangchuan Liu;Cong Zhang;Lifeng Sun;Kai Hwang

Publication Year: 2021,Page(s):170 - 176
(1068 Kb)

Edge-Network-Assisted Real-Time Object Detection Framework for Autonomous Driving

Seung-Wook Kim;Keunsoo Ko;Haneul Ko;Victor C. M. Leung

Publication Year: 2021,Page(s):177 - 183
(1089 Kb)

Membership Inference Attack with Multi-Grade Service Models in Edge Intelligence

Kehao Wang;Zhixin Hu;Qingsong Ai;Quan Liu;Mozi Chen;Kezhong Liu;Yirui Cong

Publication Year: 2021,Page(s):184 - 189
(676 Kb)

5G-Network-Enabled Smart Ambulance: Architecture, Application, and Evaluation

Yunkai Zhai;Xing Xu;Baozhan Chen;Huimin Lu;Yichuan Wang;Shuyang Li;Xiaobing Shi;Wenchao Wang;Lanlan Shang;Jie Zhao

Publication Year: 2021,Page(s):190 - 196
(1092 Kb)

Spatial-Temporal Learning-Based Artificial Intelligence for IT Operations in the Edge Network

Qi Qi;Runye Shen;Jingyu Wang;Haifeng Sun;Song Guo;Jianxin Liao

Publication Year: 2021,Page(s):197 - 203
(1220 Kb)

A Trusted Consensus Scheme for Collaborative Learning in the Edge AI Computing Domain

Ke Wang;Ship Peng Xu;Chien-Ming Chen;SK Hafizul Islam;Mohammad Mehedi Hassan;Claudio Savaglio;Pasquale Pace;Gianluca Aloï

Publication Year: 2021,Page(s):204 - 210
(679 Kb)

Call for Papers

Publication Year: 2021,Page(s):211 - 211
(444 Kb)

Accepted from Open Call

Anomaly Detection/Prediction for the Internet of Things: State of the Art and the Future

Xin-Xue Lin;Phone Lin;En-Hau Yeh

Publication Year: 2021,Page(s):212 - 218
(572 Kb)

Blockchain and Federated Learning for 5G Beyond

Yunlong Lu;Xiaohong Huang;Ke Zhang;Sabita Maharjan;Yan Zhang

Publication Year: 2021,Page(s):219 - 225
(1363 Kb)

LNTP: An End-to-End Online Prediction Model for Network Traffic

Lianming Zhang;Huan Zhang;Qian Tang;Pingping Dong;Zhen Zhao;Yehua Wei;Jing Mei;Kaiping Xue

Publication Year: 2021,Page(s):226 - 233
(970 Kb)

A Blockchain-Based Decentralized Federated Learning Framework with Committee Consensus

Yuzheng Li;Chuan Chen;Nan Liu;Huawei Huang;Zibin Zheng;Qiang Yan

Publication Year: 2021,Page(s):234 - 241
(901 Kb)

Toward a Real Deployment of Network Services Orchestration and Configuration Convergence Framework for 5G Network Slices

Ibrahim Afolabi;Miloud Bagaa;Walid Boumezer;Tarik Taleb

Publication Year: 2021,Page(s):242 - 250
(844 Kb)

Secure Prediction of Neural Network in the Cloud

Minghui Li;Yuejing Yan;Qian Wang;Minxin Du;Zhan Qin;Cong Wang

Publication Year: 2021,Page(s):251 - 257
(1086 Kb)

WIA-NR: Ultra-Reliable Low-Latency Communication for Industrial Wireless Control Networks over Unlicensed Bands

Chi Xu;Peng Zeng;Haibin Yu;Xi Jin;Changqing Xia

Publication Year: 2021,Page(s):258 - 265
(963 Kb)

A Deep Learning Method for Predictive Channel Assignment in Beyond 5G Networks

Sadman Sakib;Tahrat Tazrin;Mostafa M. Fouda;Zubair Md. Fadlullah;Nidal Nasser

Publication Year: 2021,Page(s):266 - 272
(778 Kb)

Two-Step Random Access for 5G System: Latest Trends and Challenges

Junseok Kim;Goodsol Lee;Seongwon Kim;Tarik Taleb;Sunghyun Choi;Saewoong Bahk

Publication Year: 2021,Page(s):273 - 279
(1209 Kb)

Net-in-AI: A Computing-Power Networking Framework with Adaptability, Flexibility, and Profitability for Ubiquitous AI

Xiaofei Wang;Xiaoxu Ren;Chao Qiu;Yifan Cao;Tarik Taleb;Victor C. M. Leung

Publication Year: 2021,Page(s):280 - 288
(2733 Kb)

In-Network Computing Powered Mobile Edge: Toward High Performance Industrial IoT

Tianle Mai;Haipeng Yao;Song Guo;Yunjie Liu

Publication Year: 2021,Page(s):289 - 295
(738 Kb)

Channel Modeling and Characteristics for 6G Wireless Communications

Hao Jiang;Mithun Mukherjee;Jie Zhou;Jaime Lloret

Publication Year: 2021,Page(s):296 - 303
(1619 Kb)

Toward Decentralized Fair Data Trading Based on Blockchain

Yan Li;Lingyan Li;Yanqi Zhao;Nadra Guizani;Yong Yu;Xiaojiang Du

Publication Year: 2021,Page(s):304 - 310
(731 Kb)

Group-based Password Characteristics Analysis

Daojing He;Beibei Zhou;Hang Yu;Yao Cheng;Sammy Chan;Min Zhang;Nadra Guizani

Publication Year: 2021,Page(s):311 - 317
(1057 Kb)

Blockchain-Based Massive Data Dissemination Handling in IIoT Environment

Aparna Kumari;Sudeep Tanwar;Sudhanshu Tyagi;Neeraj Kumar

Publication Year: 2021,Page(s):318 - 325

Cited by: Papers (1)
(1514 Kb)

Machine Learning for Spectrum Defragmentation in Space-Division Multiplexing Elastic Optical Networks

Silvana Trindade;Nelson L.S. da Fonseca

Publication Year: 2021,Page(s):326 - 332
(822 Kb)

Hyper-Noise Interference Privacy Protection Framework for Intelligent Medical Data-Centric Networks

Wanqing Wu;Haoke Zhang;Victor Hugo C. de Albuquerque;Lin Xu

Publication Year: 2021,Page(s):333 - 339
(1458 Kb)

Toward Smart Security Enhancement of Federated Learning Networks

Junjie Tan;Ying-Chang Liang;Nguyen Cong Luong;Dusit Niyato

Publication Year: 2021,Page(s):340 - 347
(1046 Kb)

A Paradigm Shift Toward Satisfaction, Realism and Efficiency in Wireless Networks Resource Sharing

Symeon Papavassiliou;Eirini Eleni Tsiropoulou;Panagiotis Promponas;Panagiotis Vamvakas

Publication Year: 2021,Page(s):348 - 355
(1062 Kb)

SDN-NFV-Aided Edge-Cloud Interplay for 5G-Envisioned Energy Internet Ecosystem

Sahil Garg;Kuljeet Kaur;Georges Kaddoum;Song Guo

Publication Year: 2021,Page(s):356 - 364
(1516 Kb)

The Need for Advanced Intelligence in NFV Management and Orchestration

Dimitrios Michael Manias;Abdallah Shami

Publication Year: 2021,Page(s):365 - 371
(1209 Kb)

Generalizing AI: Challenges and Opportunities for Plug and Play AI Solutions

Ismaeel Al Ridhawi;Safa Otoum;Moayad Aloqaily;Azzedine Boukerche

Publication Year: 2021,Page(s):372 - 379
(1171 Kb)

An Effective Countermeasure Against UAV Swarm Attack

Daojing He;Guang Yang;Hongyi Li;Sammy Chan;Yao Cheng;Nadra Guizani

Publication Year: 2021,Page(s):380 - 385
(769 Kb)

Toward Intelligent Cooperation of UAV Swarms: When Machine Learning Meets Digital Twin

Lei Lei;Gaoqing Shen;Lijuan Zhang;Zhilin Li

Publication Year: 2021,Page(s):386 - 392
(3831 Kb)

Design Guidelines for Machine Learning-based Cybersecurity in Internet of Things

Azzedine Boukerche;Rodolfo W. L. Coutinho

Publication Year: 2021,Page(s):393 - 399
(724 Kb)

AI Driven Heterogeneous MEC System with UAV Assistance for Dynamic Environment: Challenges and Solutions

Feibo Jiang;Kezhi Wang;Li Dong;Cunhua Pan;Wei Xu;Kun Yang

Publication Year: 2021,Page(s):400 - 408
(818 Kb)

Cover 3

Publication Year: 2021,Page(s):C3 - C3
(561 Kb)

Cover 4

Publication Year: 2021,Page(s):C4 - C4
(789 Kb)

China 中国通信 Communications

January 2021 Vol. 18 No. 1

Indexed by SCIE

Front and back coverPublication Year: 2021,Page(s):c1 - c4
(2618 Kb)**Table of contents**Publication Year: 2021,Page(s):i - ii
(3748 Kb)**Call for papers**Publication Year: 2021,Page(s):1 - 2
(424 Kb)**Cover Paper****Edge caching in blockchain empowered 6G**Wen Sun;Sheng Li;Yan Zhang
Publication Year: 2021,Page(s):1 - 17
(1846 Kb)**Communications Theories & Systems****Spectrum prediction based on GAN and deep transfer learning: A cross-band data augmentation framework**Fandi Lin;Jin Chen;Guoru Ding;Yutao Jiao;Jiachen Sun;Haichao Wang
Publication Year: 2021,Page(s):18 - 32
(8847 Kb)**Layered D2D NOMA**Jinjuan Ju;Jinyuan Gu;Guan Zhang
Publication Year: 2021,Page(s):33 - 42
(2137 Kb)**Fully connected feedforward neural networks based CSI feedback algorithm**Ming Gao;Tanming Liao;Yubin Lu
Publication Year: 2021,Page(s):43 - 48
(539 Kb)**Erasur-correctio-enhanced iterative decoding for LDPC-RS product codes**Weigang Chen;Ting Wang;Changeai Han;Jinsheng Yang
Publication Year: 2021,Page(s):49 - 60
(534 Kb)**Power allocation for NOMA in D2D relay communications**Yan Cai;Chunhua Ke;Yiyang Ni;Jun Zhang;Hongbo Zhu
Publication Year: 2021,Page(s):61 - 69
(609 Kb)**A game-theoretic perspective on resource management for large-scale UAV communication networks**Jiaxin Chen;Ping Chen;Qihui Wu;Yuhua Xu;Nan Qi;Tao Fang
Publication Year: 2021,Page(s):70 - 87
(5971 Kb)**Networks & Security****Joint trajectory and power optimization for securing UAV communications against active eavesdropping**Bin Duo;Junsong Luo;Yilian Li;Hao Hu;Zibin Wang
Publication Year: 2021,Page(s):88 - 99
(1110 Kb)**Intelligent immunity based security defense system for multi-access edge computing network**Chengcheng Zhou;Yanping Yu;Shengsong Yang;Haitao Xu
Publication Year: 2021,Page(s):100 - 107
(1407 Kb)**CNN-based intelligent safety surveillance in green IoT applications**Wengang Cao;Jianing Zhang;Changxin Cai;Quan Chen;Yu Zhao;Yimo Lou;Wei Jiang;Guan Gui
Publication Year: 2021,Page(s):108 - 119
(14899 Kb)**An improved equalization with real interference prediction scheme of the FBMC/OQAM system**Feng Yang;Yue Wang;Lianghui Ding;Liang Qian
Publication Year: 2021,Page(s):120 - 129
(4737 Kb)**Characteristic insights on industrial cyber security and popular defense mechanisms**Ming Wan;Jiawei Li;Ying Liu;Jianming Zhao;Jiushuang Wang
Publication Year: 2021,Page(s):130 - 150
(2754 Kb)**Signal Processing****Cryptanalysis and improvement of a new certificateless signature scheme in the standard model**Chenhuang Wu;Hui Huang;Kun Zhou;Chunxiang Xu
Publication Year: 2021,Page(s):151 - 160
(500 Kb)**Digital signature based on ISRSAC**Teng Yang;Yanshuo Zhang;Song Xiao;Yimin Zhao
Publication Year: 2021,Page(s):161 - 168
(937 Kb)**Individual identification of electronic equipment based on electromagnetic fingerprint characteristics**Han Xu;Hongxin Zhang;Jun Xu;Guangyuan Wang;Yun Nie;Hua Zhang
Publication Year: 2021,Page(s):169 - 180
(758 Kb)

Edge coloring of graphs with applications in coding theory
Ghaffar Raeisi; Mohammad Gholami
Publication Year: 2021, Page(s): 181 - 195
(540 Kb)

Emerging Technologies & Applications
Clustering and resource allocation strategy for D2D multicast
networks with machine learning approaches
Fan Jiang; Lan Zhang; Changyin Sun; Zeng Yuan
Publication Year: 2021, Page(s): 196 - 211
(799 Kb)

MimicCloudSim: An environment for modeling and simulation of
mimic cloud service
Liming Pu; Jiangxing Wu; Hailong Ma; Yuhang Zhu; Yingle Li
Publication Year: 2021, Page(s): 212 - 221
(567 Kb)

Energy efficiency maximization strategy for Sink node in SWIPT-
enabled sensor-cloud based on optimal stopping rules
Zhe Wang; Lina Ge; Taoshen Li; Guifen Zhang; Min Wu
Publication Year: 2021, Page(s): 222 - 236
(1933 Kb)

China 中国通信 Communications

February 2021 Vol. 18 No. 2

Indexed by SCIE

Front and back coverPublication Year: 2021,Page(s):c1 - c4
(5558 Kb)**Table of contents**Publication Year: 2021,Page(s):i - ii
(2231 Kb)**Cover Paper**

Future 5G-oriented system for urban rail transit: Opportunities and challenges

Junhui Zhao;Jin Liu;Lihua Yang;Bo Ai;Shanjin Ni
Publication Year: 2021,Page(s):1 - 12
(1797 Kb)**Communications Theories & Systems**

Multi-stage hierarchical channel allocation in UAV-assisted D2D networks: A stackelberg game approach

Tao Fang;Dan Wu;Meng Wang;Jiaxin Chen
Publication Year: 2021,Page(s):13 - 26
(1819 Kb)

Performance analysis of uplink massive spatial modulation MIMO systems in transmit-correlated Rayleigh channels

Qiyishu Li;Xiangbin Yu;Mingfeng Xie;Ning Li;Xiaoyu Dang
Publication Year: 2021,Page(s):27 - 39
(666 Kb)

Development of hybrid ARQ protocol for the quantum communication system on stabilizer codes

Jiaxin Li;Zhongwen Guo;Hongyang Ma
Publication Year: 2021,Page(s):40 - 48
(3435 Kb)

Coded modulation faster-than-Nyquist transmission with precoder and channel shortening optimization

Hui Che;Yong Bai
Publication Year: 2021,Page(s):49 - 64
(1359 Kb)

Analysis and design of scheduling schemes for wireless networks with unsaturated traffic

Jianfei Li;Juan Wen;Min Sheng
Publication Year: 2021,Page(s):65 - 85
(546 Kb)**Review Paper**

A survey on routing algorithms for opportunistic mobile social networks

Ying Cai;Haochen Zhang;Yanfang Fan;Hongke Xia
Publication Year: 2021,Page(s):86 - 109
(2226 Kb)**Networks & Security**

BC-BLPM: A multi-level security access control model based on blockchain technology

Xiang Yu;Zhangxiang Shu;Qiang Li;Jun Huang
Publication Year: 2021,Page(s):110 - 135
(3185 Kb)

An efficient trajectory planning for cellular-connected UAV under the connectivity constraint

Dingcheng Yang;Qian Dan;Lin Xiao;Chuankuan Liu;Laurie Cuthbert
Publication Year: 2021,Page(s):136 - 151
(2247 Kb)

Providing guaranteed network performance across tenants: Advances, challenges and opportunities

Chengyuan Huang;Jiao Zhang;Tao Huang;Yunjie Liu
Publication Year: 2021,Page(s):152 - 174
(3916 Kb)

Computing power network: The architecture of convergence of computing and networking towards 6G requirement

Xiongyan Tang;Chang Cao;Youxiang Wang;Shuai Zhang;Ying Liu;Mingxuan Li;Tao He
Publication Year: 2021,Page(s):175 - 185
(3564 Kb)**Signal Processing**

Multi-person device-free gesture recognition using mmWave signals

Jie Wang;Zhouhua Ran;Qinghua Gao;Xiaorui Ma;Miao Pan;Kaiping Xue
Publication Year: 2021,Page(s):186 - 199
(2808 Kb)

MEC-assisted flexible transcoding strategy for adaptive bitrate video streaming in small cell networks

Chunyu Liu;Heli Zhang;Hong Ji;Xi Li
Publication Year: 2021,Page(s):200 - 214
(843 Kb)

Power allocation for video segment based caching strategy in F-RAN architecture

Zeyu Hu;Chunjing Hu;Zexu Li;Yong Li;Guiming Wei
Publication Year: 2021,Page(s):215 - 227
(5202 Kb)

Cross-ice acoustic communication: Cascade acoustic channel model and experimental results

Jingwei Yin;Wei Men;Guangping Zhu;Xiao Han
Publication Year: 2021,Page(s):228 - 240
(1832 Kb)

Emerging Technologes & Applications

Potential transmission choice for Internet of Things (IoT): Wireless and batteryless communications and open problems

Zhan Xu;Guanjie Hu;Minzheng Jia;Lan Dong

Publication Year: 2021,Page(s):241 - 249
(844 Kb)

Flex ethernet technology and application in 5G mobile transport network

Meng Zhang

Publication Year: 2021,Page(s):250 - 258
(1243 Kb)

Intelligent fast cell association scheme based on deep Q-learning in ultra-dense cellular networks

Jinhua Pan;Lusheng Wang;Hai Lin;Zhiheng Zha;Caihong Kai

Publication Year: 2021,Page(s):259 - 270
(6854 Kb)

Proactive load balancing mechanism for fog computing supported by parked vehicles in IoV-SDN

Ahmed Jawad Kadhim;Jaber Ibrahim Naser

Publication Year: 2021,Page(s):271 - 289
(884 Kb)

IEEE TRANSACTIONS ON COMMUNICATIONS

A PUBLICATION OF THE IEEE COMMUNICATIONS SOCIETY



FEBRUARY 2021

VOLUME 69

NUMBER 2

IECMBT

(ISSN 0090-6778)

Table of contents

Publication Year: 2021,Page(s):C1 - 690
(288 Kb)

IEEE Communications Society

Publication Year: 2021,Page(s):C2 - C2
(106 Kb)

Cyclic Properties and Pipeline Implementation of the Fletcher Checksum

Zhichang Lin;Sian-Jheng Lin
Publication Year: 2021,Page(s):691 - 700
(1527 Kb)

Linear Network Coded Wireless Caching in Cloud Radio Access Network

Long Shi;Kui Cai;Tao Yang;Taotao Wang;Jun Li
Publication Year: 2021,Page(s):701 - 715
(1828 Kb)

Decoding of NB-LDPC Codes Over Subfields

Viduranga Bandara Wijekoon;Emanuele Viterbo;Yi Hong
Publication Year: 2021,Page(s):716 - 727
(1348 Kb)

Flexible Multilevel Coding With Concatenated Polar-Staircase Codes for M-QAM

Tayyab Mehmood;Metodi Plamenov Yankov;Shajeel Iqbal;Søren Forchhammer
Publication Year: 2021,Page(s):728 - 739
(1994 Kb)

Max-Min Power Control in Downlink Massive MIMO With Distributed Antenna Arrays

Noman Akbar;Emil Björnson;Nan Yang;Erik G. Larsson
Publication Year: 2021,Page(s):740 - 751
(1461 Kb)

Equilibrium Signaling: Molecular Communication Robust to Geometry Uncertainties

Bayram Cevdet Akdeniz;Malcom Egan;Bao Quoc Tang
Publication Year: 2021,Page(s):752 - 765
Cited by: Papers (1)
(2028 Kb)

Adaptive Causal Network Coding With Feedback for Multipath Multi-Hop Communications

Alejandro Cohen;Guillaume Thiran;Vered Bar Bracha;Muriel Médard
Publication Year: 2021,Page(s):766 - 785
(4423 Kb)

Transmit Antenna Selection for Space-Time Line Code Systems

Seung-Chan Lim;Jingon Joung
Publication Year: 2021,Page(s):786 - 798
(1438 Kb)

Characterization of Cooperators in Quorum Sensing With 2D Molecular Signal Analysis

Yuting Fang;Adam Noel;Andrew W. Eckford;Nan Yang;Jing Guo
Publication Year: 2021,Page(s):799 - 816
(2158 Kb)

Sporadic Ultra-Time-Critical Crowd Messaging in V2X

Yulin Shao;Soung Chang Liew;Jiaxin Liang
Publication Year: 2021,Page(s):817 - 830
(2119 Kb)

A Feedback Control Strategy for Energy-Harvesting in Diffusion-Based Molecular Communication Systems

Vittoria Musa;Giuseppe Piro;L. Alfredo Grieco;Gennaro Boggia
Publication Year: 2021,Page(s):831 - 844
(3927 Kb)

Bandlimited Communication With One-Bit Quantization and Oversampling: Transceiver Design and Performance Evaluation

Rui Deng;Jing Zhou;Wenyi Zhang
Publication Year: 2021,Page(s):845 - 862
(3888 Kb)

On the Fundamental Limits of Coded Caching Systems With Restricted Demand Types

Shuo Shao;Jesús Gómez-Vilardebó;Kai Zhang;Chao Tian
Publication Year: 2021,Page(s):863 - 873
(1456 Kb)

Recursive Algorithm to Verify Quasi-Uniform Entropy Vectors and its Applications

Dauood Saleem;Satyajit Thakor;Anil Tiwari
Publication Year: 2021,Page(s):874 - 883
(716 Kb)

Experienced Deep Reinforcement Learning With Generative Adversarial Networks (GANs) for Model-Free Ultra Reliable Low Latency Communication

Ali Taleb Zadeh Kasgari;Walid Saad;Mohammad Mozaffari;H. Vincent Poor
Publication Year: 2021,Page(s):884 - 899
Cited by: Papers (1)
(1894 Kb)

Power Efficient IRS-Assisted NOMA

Jianyue Zhu;Yongming Huang;Jiaheng Wang;Keivan Navaie;Zhiguo Ding
Publication Year: 2021,Page(s):900 - 913
Cited by: Papers (2)
(2074 Kb)

Energy-Efficient Multi-Cell Massive MIMO Subject to Minimum User-Rate Constraints

Long Dinh Nguyen;Hoang Duong Tuan;Trung Q. Duong;H. Vincent Poor;Lajos Hanzo
Publication Year: 2021,Page(s):914 - 928
(1605 Kb)

Precoder Design and Statistical Power Allocation for MIMO-NOMA via User-Assisted Simultaneous Diagonalization

Aravindh Krishnamoorthy;Zhiguo Ding;Robert Schober
Publication Year: 2021,Page(s):929 - 945
(1394 Kb)

Quantized Massive MIMO Systems With Multicell Coordinated Beamforming and Power Control

Jinseok Choi;Yunseong Cho;Brian L. Evans
Publication Year: 2021,Page(s):946 - 961
(1202 Kb)

Height Optimization and Resource Allocation for NOMA Enhanced UAV-Aided Relay Networks

Daosen Zhai;Huan Li;Xiao Tang;Ruonan Zhang;Zhiguo Ding;Fei Richard Yu
Publication Year: 2021,Page(s):962 - 975
(1945 Kb)

Rate-Splitting Multiple Access for Multigroup Multicast and Multibeam Satellite Systems

Longfei Yin;Bruno Clerckx
Publication Year: 2021,Page(s):976 - 990
(1327 Kb)

Grant-Free Opportunistic Uplink Transmission in Wireless-Powered IoT: A Spatio-Temporal Model

Mohammad Gharbieh;Hesham ElSawy;Mustafa Emara;Hong-Chuan Yang;Mohamed-Slim Alouini
Publication Year: 2021,Page(s):991 - 1006
(1923 Kb)

Pareto-Optimal Resource Allocation in Decentralized Wireless Powered Networks

Pavlos S. Bouzinis;Panagiotis D. Diamantoulakis;Lisheng Fan;George K. Karagiannidis
Publication Year: 2021,Page(s):1007 - 1020
(2277 Kb)

Practical Modeling and Analysis of Blockchain Radio Access Network

Xintong Ling;Yuwei Le;Jiaheng Wang;Zhi Ding;Xiqi Gao
Publication Year: 2021,Page(s):1021 - 1037
(3476 Kb)

Computation Over Multi-Access Channels: Multi-Hop Implementation and Resource Allocation

Fangzhou Wu;Li Chen;Nan Zhao;Yunfei Chen;F. Richard Yu;Guo Wei
Publication Year: 2021,Page(s):1038 - 1052
(1692 Kb)

Minimizing the Age of Information in the Presence of Location Privacy-Aware Mobile Agents

Richeng Jin;Xiaofan He;Huaiyu Dai
Publication Year: 2021,Page(s):1053 - 1067
(1433 Kb)

Millimeter-Wave Coordinated Beamforming Enabled Cooperative Network: A Stochastic Geometry Approach

Sisai Fang;Gaojie Chen;Xiaodong Xu;Shujun Han;Jie Tang
Publication Year: 2021,Page(s):1068 - 1079
(1665 Kb)

Multiplexing URLLC Traffic Within eMBB Services in 5G NR: Fair Scheduling

Hao Yin;Lyutianyang Zhang;Sumit Roy
Publication Year: 2021,Page(s):1080 - 1108
(1684 Kb)

Resource Management for Millimeter-Wave Ultra-Reliable and Low-Latency Communications

Rui Liu;Guanding Yu;Jiantao Yuan;Geoffrey Ye Li
Publication Year: 2021,Page(s):1094 - 1108
(2146 Kb)

Blind Wireless Network Topology Inference

Enrico Testi;Andrea Giorgetti
Publication Year: 2021,Page(s):1109 - 1120
(2162 Kb)

Average AoI in Multi-Source Systems With Source-Aware Packet Management

Mohammad Moltafet;Markus Leinonen;Marian Codreanu
Publication Year: 2021,Page(s):1121 - 1133
(1486 Kb)

How Should I Orchestrate Resources of My Slices for Bursty URLLC Service Provision?

Peng Yang;Xing Xi;Tony Q. S. Quek;Jingxuan Chen;Xianbin Cao;Dapeng Wu
Publication Year: 2021,Page(s):1134 - 1146
(1468 Kb)

Online Learning Based Computation Offloading in MEC Systems With Communication and Computation Dynamics

Kun Guo;Ruifeng Gao;Wenchao Xia;Tony Q. S. Quek
Publication Year: 2021,Page(s):1147 - 1162
(1058 Kb)

Advanced Optical Spatial Modulation Techniques for FSO Communication

Anirban Bhowal;Rakhesh Singh Kshetrimayum
Publication Year: 2021,Page(s):1163 - 1174
(2568 Kb)

Wireless Infrared-Based LiFi Uplink Transmission With Link Blockage and Random Device Orientation

Cheng Chen;Dushyantha A. Basnayaka;Ardimas Andi Purwita;Xiping Wu;Harald Haas
Publication Year: 2021,Page(s):1175 - 1188
(4323 Kb)

A Rotation-Based Method for Precoding in Gaussian MIMOME Channels

Xinliang Zhang;Yue Qi;Mojoba Vaezi
Publication Year: 2021,Page(s):1189 - 1200
(1777 Kb)

Semidefinite Relaxation for Source Localization With Quantized ToA Measurements and Transmission Uncertainty in Sensor Networks

Yongsheng Yan;Ge Yang;Haiyan Wang;Xiaohong Shen
Publication Year: 2021,Page(s):1201 - 1213
(1527 Kb)

Beamforming Optimization for IRS-Aided Communications With Transceiver Hardware Impairments

Hong Shen;Wei Xu;Shulei Gong;Chunming Zhao;Derrick Wing Kwan Ng
Publication Year: 2021,Page(s):1214 - 1227
(1393 Kb)

Joint Transmit Precoding and Reconfigurable Intelligent Surface Phase Adjustment: A Decomposition-Aided Channel Estimation Approach

Zhengyi Zhou;Ning Ge;Zhaocheng Wang;Lajos Hanzo
Publication Year: 2021,Page(s):1228 - 1243
(1828 Kb)

Waveform Design and Accurate Channel Estimation for Frequency-Hopping MIMO Radar-Based Communications

Kai Wu;J. Andrew Zhang;Xiaojing Huang;Y. Jay Guo;Robert W. Heath
Publication Year: 2021,Page(s):1244 - 1258
(2344 Kb)

Markov Decision Process Based Design of SWIPT Systems: Non-Linear EH Circuits, Memory, and Impedance Mismatch

Nikita Shanin;Laura Cottatellucci;Robert Schober
Publication Year: 2021,Page(s):1259 - 1274
(1534 Kb)

Resource Allocation for MIMO Full-Duplex Backscatter Assisted Wireless-Powered Communication Network With Finite Alphabet Inputs

Feng Ke;Yiming Peng;Yingru Peng;Derrick Wing Kwan Ng
Publication Year: 2021,Page(s):1275 - 1289
(2208 Kb)

Modeling and Analysis of Reconfigurable Intelligent Surfaces for Indoor and Outdoor Applications in Future Wireless Networks

Ibrahim Yildirim;Ali Uyrus;Ertugrul Basar
Publication Year: 2021,Page(s):1290 - 1301
Cited by: Papers (1)
(1661 Kb)

Design and Analysis of Full-Duplex Massive Antenna Array Systems Based on Wireless Power Transfer

Mohammadali Mohammadi;Batu K. Chalise;Himal A. Suraweera;Hien Quoc Ngo;Zhiguo Ding
Publication Year: 2021,Page(s):1302 - 1316
(1148 Kb)

Joint Energy Harvest and Information Transfer for Energy Beamforming in Backscatter Multiuser Networks

Wenyuan Ma;Wei Wang;Tao Jiang
Publication Year: 2021,Page(s):1317 - 1328
(927 Kb)

Analysis of Blocking in mmWave Cellular Systems: Application to Relay Positioning

Cristian García Ruiz;Antonio Pascual-Iserte;Olga Muñoz
Publication Year: 2021,Page(s):1329 - 1342
Cited by: Papers (1)
(2519 Kb)

An Efficient Fronthaul Scheme Based on Coaxial Cables for 5G Centralized Radio Access Networks

Diogo Acatauassu;Moysés Licá;Aline Ohashi;André Lucas Pinho Fernandes;Marx Freitas;João C. W. A. Costa;Eduardo Medeiros;Igor Almeida;André Mendes Cavalcante
Publication Year: 2021,Page(s):1343 - 1357
(3246 Kb)

Beamwidth Optimization and Resource Partitioning Scheme for Localization Assisted mm-Wave Communication

Gourab Ghatak;Remun Koirala;Antonio De Domenico;Benoît Denis;Davide Dardari;Bernard Uguen;Marceau Coupechoux
Publication Year: 2021,Page(s):1358 - 1374
(2288 Kb)

Energy Efficient Resource Allocation in Terahertz Downlink NOMA Systems

Haijun Zhang;Yanan Duan;Keping Long;Victor C. M. Leung
Publication Year: 2021,Page(s):1375 - 1384
(1326 Kb)

IEEE Communications Society

Publication Year: 2021,Page(s):C3 - C3
(77 Kb)

Blank page

Publication Year: 2021,Page(s):C4 - C4
(4 Kb)

IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS

A PUBLICATION OF THE IEEE COMMUNICATIONS SOCIETY



FEBRUARY 2021

VOLUME 39

NUMBER 2

ISACEM

(ISSN 0733-8716)

Table of contents

Publication Year: 2021,Page(s):C1 - C4
(377 Kb)

IEEE Journal on Selected Areas in Communications

Publication Year: 2021,Page(s):C2 - C2
(81 Kb)

Guest Editorial: Internet of Things for In-Home Health Monitoring
Joel J. P. C. Rodrigues;Honggang Wang;Simon James Fong;Nada Y. Philip;Jia Chen

Publication Year: 2021,Page(s):295 - 299
(412 Kb)

Internet of Things for In-Home Health Monitoring Systems: Current Advances, Challenges and Future Directions

Nada Y. Philip;Joel J. P. C. Rodrigues;Honggang Wang;Simon James Fong;Jia Chen

Publication Year: 2021,Page(s):300 - 310
(2409 Kb)

Design of an MISO-SWIPT-Aided Code-Index Modulated Multi-Carrier M-DCSK System for e-Health IoT

Guofa Cai;Yi Fang;Pingping Chen;Guojun Han;Guoen Cai;Yang Song

Publication Year: 2021,Page(s):311 - 324
Cited by: Papers (2)
(1842 Kb)

Sparse Vector Coding-Based Multi-Carrier NOMA for In-Home Health Networks

Xuewan Zhang;Liuqing Yang;Zhiguo Ding;Jian Song;Yunkai Zhai;Di Zhang

Publication Year: 2021,Page(s):325 - 337
Cited by: Papers (5)
(2097 Kb)

DROPS: Dynamic Radio Protocol Selection for Energy-Constrained Wearable IoT Healthcare

Sudip Misra;Arijit Roy;Chandana Roy;Anandarup Mukherjee

Publication Year: 2021,Page(s):338 - 345
Cited by: Papers (1)
(1830 Kb)

Smart Mutual Authentication Protocol for Cloud Based Medical Healthcare Systems Using Internet of Medical Things

B. D. Deebak;Fadi Al-Turjman

Publication Year: 2021,Page(s):346 - 360
Cited by: Papers (1)
(3106 Kb)

HARCI: A Two-Way Authentication Protocol for Three Entity Healthcare IoT Networks

Tejasvi Alladi;Vinay Chamola;Naren

Publication Year: 2021,Page(s):361 - 369
Cited by: Papers (2)
(1208 Kb)

xTSeH: A Trusted Platform Module Sharing Scheme Towards Smart IoT-eHealth Devices

Di Lu;Ruidong Han;Yulong Shen;Xuewen Dong;Jianfeng Ma;Xiaojiang Du;Mohsen Guizani

Publication Year: 2021,Page(s):370 - 383
Cited by: Papers (1)
(2807 Kb)

Efficient Identity-Based Distributed Decryption Scheme for Electronic Personal Health Record Sharing System

Yudi Zhang;Debiao He;Mohammad S. Obaidat;Pandi Vijayakumar;Kuei-Fang Hsiao

Publication Year: 2021,Page(s):384 - 395
Cited by: Papers (1)
(1925 Kb)

Learning-Based URLLC-Aware Task Offloading for Internet of Health Things

Zhenyu Zhou;Zhao Wang;Haijun Yu;Haijun Liao;Shahid Mumtaz;Luís Oliveira;Valerio Frascolla

Publication Year: 2021,Page(s):396 - 410
Cited by: Papers (5)
(2262 Kb)

A Multi-Stage Stochastic Programming-Based Offloading Policy for Fog Enabled IoT-eHealth

Long Zhang;Bin Cao;Yun Li;Mugen Peng;Gang Feng

Publication Year: 2021,Page(s):411 - 425
Cited by: Papers (1)
(2396 Kb)

Cross-Modal Stream Scheduling for eHealth

Liang Zhou;Dan Wu;Xin Wei;Jianxin Chen

Publication Year: 2021,Page(s):426 - 437
Cited by: Papers (1)
(3256 Kb)

CURATE: On-Demand Orchestration of Services for Health Emergencies Prediction and Mitigation

Luis Sanabria-Russo;Jordi Serra;David Pubill;Christos Verikoukis

Publication Year: 2021,Page(s):438 - 445
Cited by: Papers (1)
(1147 Kb)

Simulation-Driven Platform for Edge-Based AAL Systems
Gianluca Aloï;Giancarlo Fortino;Raffaele Gravina;Pasquale Pace;Claudio Savaglio
Publication Year: 2021,Page(s):446 - 462
Cited by: Papers (2)
(2602 Kb)

Mobile Edge Computing Enabled 5G Health Monitoring for Internet of Medical Things: A Decentralized Game Theoretic Approach
Zhaolong Ning;Peiran Dong;Xiaojie Wang;Xiping Hu;Lei Guo;Bin Hu;Yi Guo;Tie Qiu;Ricky Y. K. Kwok
Publication Year: 2021,Page(s):463 - 478
Cited by: Papers (2)
(2804 Kb)

Exploiting Transfer Learning for Emotion Recognition Under Cloud-Edge-Client Collaborations
Dapeng Wu;Xiaojuan Han;Zhigang Yang;Ruyan Wang
Publication Year: 2021,Page(s):479 - 490
Cited by: Papers (1)
(3431 Kb)

A Decoupled Blockchain Approach for Edge-Envisioned IoT-Based Healthcare Monitoring
Gagangeet Singh Aujla;Anish Jindal
Publication Year: 2021,Page(s):491 - 499
Cited by: Papers (1)
(1634 Kb)

Respiration Monitoring With RFID in Driving Environments
Chao Yang;Xuyu Wang;Shiwen Mao
Publication Year: 2021,Page(s):500 - 512
Cited by: Papers (1)
(2483 Kb)

Accurate Respiration Monitoring for Mobile Users With Commercial RFID Devices
Shigeng Zhang;Xuan Liu;Yangyang Liu;Bo Ding;Song Guo;Jianxin Wang
Publication Year: 2021,Page(s):513 - 525
Cited by: Papers (2)
(1928 Kb)

Markov Models for Anomaly Detection in Wireless Body Area Networks for Secure Health Monitoring
Osman Salem;Khalid Alsubhi;Ahmed Mehaoua;Raouf Boutaba
Publication Year: 2021,Page(s):526 - 540
Cited by: Papers (1)
(3831 Kb)

An Open IoT-Based Deep Learning Framework for Online Medical Image Recognition
Carlos M. J. M. Dourado;Suane Pires P. da Silva;Raul Victor M. da Nobrega;Pedro P. Rebouças Filho;Khan Muhammad;Victor Hugo C. de Albuquerque
Publication Year: 2021,Page(s):541 - 548
Cited by: Papers (1)
(1748 Kb)

Learning From Mislabeled Training Data Through Ambiguous Learning for In-Home Health Monitoring
Weiwei Yuan;Guangjie Han;Donghai Guan
Publication Year: 2021,Page(s):549 - 561
Cited by: Papers (1)
(1846 Kb)

Remote Monitoring of Physical Rehabilitation of Stroke Patients Using IoT and Virtual Reality
Octavian Postolache;D. Jude Hemanth;Ricardo Alexandre;Deepak Gupta;Oana Geman;Ashish Khanna
Publication Year: 2021,Page(s):562 - 573
Cited by: Papers (1)
(1809 Kb)

Pulmonary Nodule Classification Based on Heterogeneous Features Learning
Chao Tong;Baoyu Liang;Qiang Su;Mengbo Yu;Jiexuan Hu;Ali Kashif Bashir;Zhigao Zheng
Publication Year: 2021,Page(s):574 - 581
Cited by: Papers (1)
(1308 Kb)

Leveraging IoT Wearable Technology Towards Early Diagnosis of Neurological Diseases
Andrea Sciarrone;Igor Bisio;Chiara Garibotto;Fabio Lavagetto;Gerhard H. Stauder;Andreas Knopp
Publication Year: 2021,Page(s):582 - 592
Cited by: Papers (1)
(3485 Kb)

Intelligent IoT Framework for Indoor Healthcare Monitoring of Parkinson's Disease Patient
Mohsin Raza;Muhammad Awais;Nishant Singh;Muhammad Imran;Sajjad Hussain
Publication Year: 2021,Page(s):593 - 602
Cited by: Papers (1)
(3241 Kb)

EEG-Based Pathology Detection for Home Health Monitoring
Ghulam Muhammad;M. Shamim Hossain;Neeraj Kumar
Publication Year: 2021,Page(s):603 - 610
Cited by: Papers (4)
(1845 Kb)

IEEE Communications Society Information
Publication Year: 2021,Page(s):C3 - C3
(77 Kb)

IEEE COMMUNICATIONS LETTERS

A PUBLICATION OF THE IEEE COMMUNICATIONS SOCIETY



FEBRUARY 2021

VOLUME 25

NUMBER 2

ICLEF6

(ISSN 1558-2558)

Table of contents

Publication Year: 2021,Page(s):C1 - 320
(244 Kb)

IEEE Communications Society

Publication Year: 2021,Page(s):C2 - C2
(92 Kb)

Reviewers and Editors Appreciation 2020

Marco Di Renzo

Publication Year: 2021,Page(s):321 - 321
(121 Kb)

A Tutorial on Joint Radar and Communication Transmission for Vehicular Networks—Part I: Background and Fundamentals

Fan Liu;Christos Masouros

Publication Year: 2021,Page(s):322 - 326
(557 Kb)

A Tutorial on Joint Radar and Communication Transmission for Vehicular Networks—Part II: State of the Art and Challenges Ahead

Fan Liu;Christos Masouros

Publication Year: 2021,Page(s):327 - 331
(584 Kb)

A Tutorial on Joint Radar and Communication Transmission for Vehicular Networks—Part III: Predictive Beamforming Without State Models

Fan Liu;Christos Masouros

Publication Year: 2021,Page(s):332 - 336
(695 Kb)

A Direct Construction of Optimal ZCCS With Maximum Column Sequence PMEPR Two for MC-CDMA System

Palash Sarkar;Sudhan Majhi

Publication Year: 2021,Page(s):337 - 341
(544 Kb)

A New Family of Quantum Synchronizable Codes

Xia Li;Qin Yue

Publication Year: 2021,Page(s):342 - 345
(391 Kb)

Complete Weight Enumerators of Linear Codes Based on Weil Sums

Shudi Yang

Publication Year: 2021,Page(s):346 - 350
(174 Kb)

Improving the Decoding Speed of Packet Recovery in Network Coding

Hosein K. Nazari;Kiana Ghassabi;Peyman Pahlevani;Daniel Lucani

Publication Year: 2021,Page(s):351 - 355
(486 Kb)

List Decodability of Linear Subcodes of Gabidulin Codes

Shu Liu;Ivan Tjuawinata;Liang Zhou

Publication Year: 2021,Page(s):356 - 360
(198 Kb)

Notes on LCD Codes Over Frobenius Rings

Zihui Liu;Xin-Wen Wu

Publication Year: 2021,Page(s):361 - 364
(154 Kb)

On DNA Codes With Multiple Constraints

Krishna Gopal Benerjee;Adrish Banerjee

Publication Year: 2021,Page(s):365 - 368
(358 Kb)

Reliable Broadcast Based on Online Fountain Codes

Jingxuan Huang;Zesong Fei;Congzhe Cao;Ming Xiao;Xiang Xie

Publication Year: 2021,Page(s):369 - 373
(869 Kb)

Revolving Codes: Overhead and Computational Complexity Analysis

Niloofer Yazdani;Daniel E. Lucani

Publication Year: 2021,Page(s):374 - 378
(771 Kb)

The Hermitian Dual Containing Non-Primitive BCH Codes

Fengwei Li;Xiaoming Sun

Publication Year: 2021,Page(s):379 - 382
(168 Kb)

Twisted Reed–Solomon Codes With One-Dimensional Hull

Yansheng Wu

Publication Year: 2021,Page(s):383 - 386
(174 Kb)

A Novel OFDM Waveform With Enhanced Physical Layer Security

Lutfi Samara;Abubakr O. Alabbasi;Ala Gouissem;Ridha

Hamila;Naofal Al-Dhahir

Publication Year: 2021,Page(s):387 - 391
Cited by: [Papers \(1\)](#)

(458 Kb)

An Evasive Scheduling Enhancement Against Packet Dropping Attacks in C-V2X Communication

Youngjoon Yoon;Hyogon Kim

Publication Year: 2021,Page(s):392 - 396
(618 Kb)

Hybrid Precoding Aided Secure Generalized Spatial Modulation in Millimeter Wave MIMO Systems

Pengli Yang;Xin Qiu

Publication Year: 2021,Page(s):397 - 401
(698 Kb)

Noise-Robust Multilayer Perceptron Architecture for Distributed Denial of Service Attack Detection

João Paulo A. Maranhão;João Paulo C. L. da Costa;Edison Pignaton de Freitas;Elnaz Javidi;Rafael T. de Sousa
Publication Year: 2021,Page(s):402 - 406
(1069 Kb)

On the Performance Analysis of IDLP and SpaceMac for Network Coding-Enabled Mobile Small Cells

Reza Parsamehr;Georgios Mantas;Jonathan Rodriguez;José-Fernán Martínez-Ortega
Publication Year: 2021,Page(s):407 - 411
(2076 Kb)

Physical Layer Security Over Mixture Gamma Distributed Fading Channels With Discrete Inputs: A Unified and General Analytical Framework

Chongjun Ouyang;Sheng Wu;Chunxiao Jiang;Julian Cheng;Hongwen Yang
Publication Year: 2021,Page(s):412 - 416
Cited by: [Papers \(1\)](#)
(733 Kb)

Secure Beamforming for Multiple Intelligent Reflecting Surfaces Aided mmWave Systems

Yue Xiu;Jun Zhao;Chau Yuen;Zhongpei Zhang;Guan Gui
Publication Year: 2021,Page(s):417 - 421
(662 Kb)

NOMA for Correlated Information Sources in 5G Systems

Kyuhyuk Chung
Publication Year: 2021,Page(s):422 - 426
Cited by: [Papers \(1\)](#)
(615 Kb)

NOMA-2000 Versus PD-NOMA: An Outage Probability Comparison

İsmail Coşandalı;Mutlu Koca;Ezio Biglieri;Hikmet Sari
Publication Year: 2021,Page(s):427 - 431
(346 Kb)

On the Outage Performance of JT-CoMP-CNOMA Networks With SWIPT

Ruoxuan Lei;Ding Xu
Publication Year: 2021,Page(s):432 - 436
(508 Kb)

Outage Performance Analysis for an Opportunistic Source Selection Based Two-Way Cooperative Ambient Backscatter Communication System

Yingting Liu;Yinghui Ye;Guanghui Yan;Yongli Zhao
Publication Year: 2021,Page(s):437 - 441
(548 Kb)

Performance of Multi-Cell mmWave NOMA Networks With Base Station Cooperation

Yangying Zhang;Junsheng Mu;Jing Xiaojun
Publication Year: 2021,Page(s):442 - 445
(630 Kb)

The "Nontriviality" of the Union Bound for Decoding of Convolutional Codes

Marat V. Burnashev
Publication Year: 2021,Page(s):446 - 449
(408 Kb)

Low-Latency Live Streaming Over HTTP in Bandwidth-Limited Networks

Ihsan Mert Ozcelik;Cem Ersoy
Publication Year: 2021,Page(s):450 - 454
(1077 Kb)

Minimum Cut Acceleration by Exploiting Tree-Cut Injection for Upper Bound Estimation

Wei Wei;Xiaohui Gong;Weidong Yang;Yashuang Mu
Publication Year: 2021,Page(s):455 - 459
(468 Kb)

Power Control for ISI Mitigation in Mobile Molecular Communication

Dongliang Jing;Yongzhao Li;Andrew W. Eckford
Publication Year: 2021,Page(s):460 - 464
(637 Kb)

Angle Separation Learning for Coherent DOA Estimation With Deep Sparse Prior

Houhong Xiang;Baixiao Chen;Minglei Yang;Saiqin Xu
Publication Year: 2021,Page(s):465 - 469
(1141 Kb)

Improved Coprime Linear Array Configuration for Moving Platform in DOA Estimation

Xiao Yang;Yide Wang;Pascal Chargé
Publication Year: 2021,Page(s):470 - 473
(1128 Kb)

RSS-Based Byzantine Fault-Tolerant Localization Algorithm Under NLOS Environment

Xiaojun Mei;Huafeng Wu;Jiangfeng Xian;Bowen Chen
Publication Year: 2021,Page(s):474 - 478
(699 Kb)

Superior Position Estimation Based on Optimization in GNSS

Changhui Jiang;Shuai Chen;Yuwei Chen;Jichun Shen;Di Liu;Yuming Bo
Publication Year: 2021,Page(s):479 - 483
(765 Kb)

Extreme Learning Machine-Based Receiver for Multi-User Massive MIMO Systems

Diego Fernando Carrera;David Zabala-Blanco;Cesar Vargas-Rosales;Cesar A. Azurdia-Meza
Publication Year: 2021,Page(s):484 - 488
(853 Kb)

IAB Topology Design: A Graph Embedding and Deep Reinforcement Learning Approach

Meryem Simsek;Oner Orhan;Marcel Nassar;Oguz Elibol;Hosein Nikopour
Publication Year: 2021,Page(s):489 - 493
(536 Kb)

Machine Learning-Based Massive Augmented Spatial Modulation (ASM) for IoT VLC Systems

Monette H. Khadr;Ian Walter;Hany Elgala;Sami Muhaidat
Publication Year: 2021,Page(s):494 - 498
(753 Kb)

ML/CGAN: Network Attack Analysis Using CGAN as Meta-Learning

Meejoung Kim
Publication Year: 2021,Page(s):499 - 502
(1016 Kb)

Sliding Differential Evolution Scheduling for Federated Learning in Bandwidth-Limited Networks

Yifan Luo;Jindan Xu;Wei Xu;Kezhi Wang
Publication Year: 2021,Page(s):503 - 507
(869 Kb)

Multi-Head Attention Based Popularity Prediction Caching in Social Content-Centric Networking With Mobile Edge Computing

Jie Liang;Dali Zhu;Haitao Liu;Heng Ping;Ting Li;Hangsheng Zhang;Liru Geng;Yinlong Liu
Publication Year: 2021,Page(s):508 - 512
(1192 Kb)

Impact of Multiple Shadows on Visible Light Communication Channel

Tang Tang;Tao Shang;Qian Li
Publication Year: 2021,Page(s):513 - 517
(845 Kb)

Authenticated Quantum Sortition and Application in "Picking at Random" Problems

Qingle Wang;Chaohang Yu;Yuancheng Li;Jiangshan Liu;Runhua Shi;Yuqian Zhou
Publication Year: 2021,Page(s):518 - 522
(326 Kb)

A Continuous Policy Learning Approach for Hybrid Offloading in Backscatter Communication

Ang Gao;Tianli Geng;Soon Xin Ng;Wei Liang
Publication Year: 2021,Page(s):523 - 527
(1052 Kb)

Computation Bits Maximization in a Backscatter Assisted Wirelessly Powered MEC Network

Liqin Shi;Yinghui Ye;Xiaoli Chu;Guangyue Lu
Publication Year: 2021,Page(s):528 - 532
(431 Kb)

Efficient Risk-Averse Request Allocation for Multi-Access Edge Computing

Yan Li;Deke Guo;Yawei Zhao;Xiaofeng Cao;Honghui Chen
Publication Year: 2021,Page(s):533 - 537
(606 Kb)

Enabling Collaborative Data Uploading in Body-to-Body Networks

Pradyumna Kumar Bishoyi;Sudip Misra
Publication Year: 2021,Page(s):538 - 541
(517 Kb)

Geometric Sequential Learning Dynamics

Woong-Hee Lee;Mustafa Ozger;Ursula Challita
Publication Year: 2021,Page(s):542 - 545
(249 Kb)

Linear Canonical Wigner Distribution of Noisy LFM Signals via Multiobjective Optimization Analysis Involving Variance-SNR

Zhichao Zhang;Dong Li;Yunjie Chen;Jianwei Zhang
Publication Year: 2021,Page(s):546 - 550
(934 Kb)

Online Transmission Policy for Energy Harvesting Sensor Node With Energy Loss

Arpita Jaitawat;Arun Kumar Singh
Publication Year: 2021,Page(s):551 - 554
(605 Kb)

Optimizing the mmWave Channel Estimation Duration by Rate Prediction

Jeongwan Kang;Nil Garcia;Henk Wymeersch;Carlo Fischione;Gonzalo Seco-Granados;Sunwoo Kim
Publication Year: 2021,Page(s):555 - 559
(636 Kb)

Power Allocation and Link Selection for Multicell Cooperative NOMA Hybrid VLC/RF Systems

Mohanad Obeed;Hayssam Dahrouj;Anas M. Salhab;Anas Chaaban;Salam A. Zummo;Mohamed-Slim Alouini
Publication Year: 2021,Page(s):560 - 564
(491 Kb)

Power Allocation and User-AP Connection in Distributed Massive MIMO Systems

Hieu Trong Dao;Sunghwan Kim
Publication Year: 2021,Page(s):565 - 569
(550 Kb)

Tunable Filter Design for Integrated Radar and Communication Waveforms

Mengchao Jiang;Guisheng Liao;Zhiwei Yang;Yongjun Liu;Yufeng Chen
Publication Year: 2021,Page(s):570 - 573
(323 Kb)

Cognitive Satellite Communications Spectrum Sensing Based on Higher Order Moments

Francesco Benedetto;Gaetano Giunta;Luca Pallotta
Publication Year: 2021,Page(s):574 - 578
(615 Kb)

Optimizing Multi-UAV Deployment in 3-D Space to Minimize Task Completion Time in UAV-Enabled Mobile Edge Computing Systems

Sujunjie Sun;Guopeng Zhang;Haibo Mei;Kezhi Wang;Kun Yang
Publication Year: 2021,Page(s):579 - 583
(423 Kb)

Robust Design for Turning and Climbing Angle-Constrained UAV Communication Under Malicious Jamming

Yufang Gao;Yang Wu;Zhichao Cui;Hui Chen;Wendong Yang
Publication Year: 2021,Page(s):584 - 588
(692 Kb)

Blind Equalization for Chaotic Signals Based on Echo State Network and Kalman Filter Under Nonlinear Channels

Qin Han;Ling Yang;Juan Du;Li Cheng
Publication Year: 2021,Page(s):589 - 592
Cited by: Papers (1)
(750 Kb)

Cascaded Channel Estimation for IRS-Assisted mmWave Multi-Antenna With Quantized Beamforming

Wenhui Zhang;Jindan Xu;Wei Xu;Derrick Wing Kwan Ng;Huan Sun
Publication Year: 2021,Page(s):593 - 597
(571 Kb)

Distributed Target Detection in Communication Interference and Noise Using OFDM Radar

Zhen Du;Zenghui Zhang;Wenxian Yu
Publication Year: 2021,Page(s):598 - 602
(408 Kb)

Synchronization Signal Design for Millimeter-Wave Cellular V2X Communications

Yeong Jun Kim;Jimin Lee;Yong Soo Cho
Publication Year: 2021,Page(s):603 - 607
(444 Kb)

[Transient Analysis of the Block Least Mean Squares Algorithm](#)

Thiago R. P. Gonzaga;Valmir dos S. N. Junior;Ana L. F. de Barros;Felipe da R. Henriques;Diego B. Haddad
Publication Year: 2021,Page(s):608 - 612
(613 Kb)

[Uniform Linear Arrays With Optimized Inter-Element Spacing for LOS Massive MIMO](#)

Amirashkan Farsaei;Navid Amani;Rob Maaskant;Ulf Gustavsson;Alex Alvarado;Frans M. J. Willems
Publication Year: 2021,Page(s):613 - 616
(731 Kb)

[FD-FBMC: A Solution for Multicarrier Full Duplex Cellular Systems](#)

Kwonhue Choi
Publication Year: 2021,Page(s):617 - 621
(470 Kb)

[Intelligent Reflecting Surfaces to Achieve the Full-Duplex Wireless Communication](#)

Prabhat Kumar Sharma;Parul Garg
Publication Year: 2021,Page(s):622 - 626
(640 Kb)

[Minimum Error Pursuit Algorithm for Symbol Detection in MBM Massive-MIMO](#)

Arijit Datta;Manish Mandloi;Vimal Bhatia
Publication Year: 2021,Page(s):627 - 631
(837 Kb)

[Reconfigurable Intelligent Surface Assisted Coordinated Multipoint in Downlink NOMA Networks](#)

Mohamed Kadry Elhattab;Mohamed-Amine Arfaoui;Chadi Assi;Ali Ghrayeb
Publication Year: 2021,Page(s):632 - 636
Cited by: [Papers \(1\)](#)
(595 Kb)

[Smart Devices Performance With SSK-BPSK Modulation and Energy Harvesting in Smart Cities](#)

Hemanta Kumar Sahu;Ashish Kumar Padhan;Pravas Ranjan Sahu
Publication Year: 2021,Page(s):637 - 640
(383 Kb)

[Terahertz-Band MIMO Systems: Adaptive Transmission and Blind Parameter Estimation](#)

Mohamed Habib Loukil;Hadi Sameddeen;Mohamed-Slim Alouini;Tareq Y. Al-Naffouri
Publication Year: 2021,Page(s):641 - 645
(327 Kb)

[VFD-NOMA Under Imperfect SIC and Residual Inter-Relay Interference Over Generalized Nakagami-m Fading Channels](#)

Justin Jose;Parvez Shaik;Vimal Bhatia
Publication Year: 2021,Page(s):646 - 650
(668 Kb)

[A New Approach to SINR-Based Reliability Analysis of IEEE 802.11 Broadcast Ad Hoc Networks](#)

Xiaomin Ma;Jing Zhao;Yanbin Wang;Tingyu Zhang;Zhijuan Li
Publication Year: 2021,Page(s):651 - 655
(529 Kb)

[A Theoretical Association Time Model for IEEE 802.15.4 TSCH Networks](#)

Carlos Manuel García Algora;Erik Ortiz Guerra;Samuel Montejo Sánchez;Evelio M. García Fernández;Kris Steenhaut
Publication Year: 2021,Page(s):656 - 659
(484 Kb)

[Rate Adaptation and Latency in Heterogeneous IoT Networks](#)

Hesham ElSawy
Publication Year: 2021,Page(s):660 - 664
(318 Kb)

[Throughput Analysis of Small Cell Networks Under D-TDD and FFR](#)

Meiyan Song;Hangguan Shan;Howard H. Yang;Tony Q. S. Quek
Publication Year: 2021,Page(s):665 - 669
Cited by: [Papers \(1\)](#)
(622 Kb)

[VAR²: Novel Vehicular Ad-Hoc Reliable Routing Approach for Compatible and Trustworthy Paradigm](#)

Farooque Hassan Kumbhar;Soo Young Shin
Publication Year: 2021,Page(s):670 - 674
(945 Kb)

[Datasets](#)

[IEEE Communications Society](#)
Publication Year: 2021,Page(s):C3 - C3
(77 Kb)

IEEE COMMUNICATIONS SURVEYS & TUTORIALS

A PUBLICATION OF THE IEEE COMMUNICATIONS SOCIETY



FIRST QUARTER 2021

VOLUME 23

NUMBER 1

ICSTCF

(ISSN 1553-877X)

Table of contents

Publication Year: 2021,Page(s):C1 - C4
(369 Kb)

Editorial: First Quarter 2021 IEEE Communications Surveys and Tutorials

Dusit Tao Niyato
Publication Year: 2021,Page(s):1 - 6
(114 Kb)

A Survey on Modulation Techniques in Molecular Communication via Diffusion

Mehmet Şükrü Kuran;H. Birkan Yilmaz;Ilker Demirkol;Nariman Farsad;Andrea Goldsmith
Publication Year: 2021,Page(s):7 - 28
(1906 Kb)

Design of Polar Codes in 5G New Radio

Valerio Bioglio;Carlo Condo;Ingmar Land
Publication Year: 2021,Page(s):29 - 40
Cited by: [Papers \(13\)](#)
(1749 Kb)

Fifty Years of Noise Modeling and Mitigation in Power-Line Communications

Tong Bai;Hongming Zhang;Jingjing Wang;Chao Xu;Maged Elkashlan;Arumugam Nallanathan;Lajos Hanzo
Publication Year: 2021,Page(s):41 - 69
(2802 Kb)

Satellite Communications in the New Space Era: A Survey and Future Challenges

Oltjon Kodheli;Eva Lagunas;Nicola Maturo;Shree Krishna Sharma;Bhavani Shankar;Jesus Fabian Mendoza Montoya;Juan Carlos Merlano Duncan;Danilo Spano;Symeon Chatzinotas;Steven Kisseleff;Jorge Querol;Lei Lei;Thang X. Vu;George Goussetis
Publication Year: 2021,Page(s):70 - 109
Cited by: [Papers \(6\)](#)
(6158 Kb)

A Comprehensive Survey on Moving Networks

Shan Jaffry;Rasheed Hussain;Xiang Gui;Syed Faraz Hasan
Publication Year: 2021,Page(s):110 - 136
(3656 Kb)

A Survey of Routing Protocols for Underwater Wireless Sensor Networks

Junhai Luo;Yanping Chen;Man Wu;Yang Yang
Publication Year: 2021,Page(s):137 - 160
(4144 Kb)

Vehicular Visible Light Communications: A Survey

Agon Memedi;Falko Dressler
Publication Year: 2021,Page(s):161 - 181
(1868 Kb)

Segment Routing: A Comprehensive Survey of Research Activities, Standardization Efforts, and Implementation Results

Pier Luigi Ventre;Stefano Salsano;Marco Polverini;Antonio Cianfrani;Ahmed Abdelsalam;Clarence Filis;Pablo Camarillo;Francois Clad
Publication Year: 2021,Page(s):182 - 221
Cited by: [Papers \(1\)](#)
(4937 Kb)

Challenges and Solutions for Cellular Based V2X Communications

Sohan Gyawali;Shengjie Xu;Yi Qian;Rose Qingyang Hu
Publication Year: 2021,Page(s):222 - 255
(4558 Kb)

Decentralized SDN Control Plane for a Distributed Cloud-Edge Infrastructure: A Survey

David Espinel Sarmiento;Adrien Lebre;Lucas Nussbaum;Abdelhadi Chari
Publication Year: 2021,Page(s):256 - 281
(2604 Kb)

A Survey of Physical-Layer Authentication in Wireless Communications

Ning Xie;Zhuoyuan Li;Haijun Tan
Publication Year: 2021,Page(s):282 - 310
Cited by: [Papers \(1\)](#)
(4563 Kb)

Short-Range Audio Channels Security: Survey of Mechanisms, Applications, and Research Challenges

Maurantonio Caprolu;Savio Sciancalepore;Roberto Di Pietro
Publication Year: 2021,Page(s):311 - 340
Cited by: [Papers \(1\)](#)
(2229 Kb)

The Security Reference Architecture for Blockchains: Toward a Standardized Model for Studying Vulnerabilities, Threats, and Defenses

Ivan Homoliak;Sarad Venugopalan;Daniël Reijnders;Qingze Hum;Richard Schumi;Pawel Szalachowski
Publication Year: 2021,Page(s):341 - 390
(6072 Kb)

Potential Identity Resolution Systems for the Industrial Internet of Things: A Survey

Yuzheng Ren;Renchao Xie;F. Richard Yu;Tao Huang;Yunjie Liu
Publication Year: 2021,Page(s):391 - 430
(5324 Kb)

Video Caching, Analytics, and Delivery at the Wireless Edge: A Survey and Future Directions

Behrouz Jedari;Gopika Premsankar;Gazi Illahi;Mario Di Francesco;Abbas Mehrabi;Antti Ylä-Jääski
Publication Year: 2021,Page(s):431 - 471
(7115 Kb)

A Comprehensive Survey of the Tactile Internet: State-of-the-Art and Research Directions

Nattakorn Promwongsa;Amin Ebrahimzadeh;Diala Naboulsi;Somayeh Kianpisheh;Fatna Belqasmi;Roch Gliitho;Noel Crespi;Omar Alfandi
Publication Year: 2021,Page(s):472 - 523
(5431 Kb)

Resilient Machine Learning for Networked Cyber Physical Systems: A Survey for Machine Learning Security to Securing Machine Learning for CPS

Felix O. Olowononi;Danda B Rawat;Chunmei Liu
Publication Year: 2021,Page(s):524 - 552
Cited by: [Papers \(2\)](#)
(3682 Kb)

Enabling AI in Future Wireless Networks: A Data Life Cycle Perspective

Dinh C. Nguyen;Peng Cheng;Ming Ding;David Lopez-Perez;Pubudu N. Pathirana;Jun Li;Aruna Seneviratne;Yonghui Li;H. Vincent Poor
Publication Year: 2021,Page(s):553 - 595
(6945 Kb)

Toward Enabled Industrial Verticals in 5G: A Survey on MEC-Based Approaches to Provisioning and Flexibility

Francesco Spinelli;Vincenzo Mancuso
Publication Year: 2021,Page(s):596 - 630
(4412 Kb)

Artificial Intelligence for Wireless Caching: Schemes, Performance, and Challenges

Muhammad Sheraz;Manzoor Ahmed;Xueshi Hou;Yong Li;Depeng Jin;Zhu Han;Tao Jiang
Publication Year: 2021,Page(s):631 - 661
(5073 Kb)

IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS

A PUBLICATION OF THE IEEE COMMUNICATIONS SOCIETY AND THE IEEE SIGNAL PROCESSING SOCIETY



FEBRUARY 2021

VOLUME 20

NUMBER 2

ITWCAX

(ISSN 1536-1276)

Table of contents

Publication Year: 2021,Page(s):C1 - 727
(148 Kb)

IEEE Transactions on Wireless Communications

Publication Year: 2021,Page(s):C2 - C2
(84 Kb)

Dynamic Electromagnetic Exposure Allocation for Rayleigh Fading MIMO Channels

Miguel R. Castellanos;Dawei Ying;David J. Love;Borja Peleato;Bertrand M. Hochwald
Publication Year: 2021,Page(s):728 - 740
Cited by: [Papers \(1\)](#)
(1613 Kb)

Reconfigurable Intelligent Surfaces With Reflection Pattern Modulation: Beamforming Design and Performance Analysis

Shaoe Lin;Beixiong Zheng;George C. Alexandropoulos;Miaowen Wen;Marco Di Renzo;Fangjiong Chen
Publication Year: 2021,Page(s):741 - 754
(1652 Kb)

Geometry-Cluster-Based Stochastic MIMO Model for Vehicle-to-Vehicle Communications in Street Canyon Scenarios

Chen Huang;Rui Wang;Pan Tang;Ruisi He;Bo Ai;Zhangdui Zhong;Claude Oestges;Andreas F. Molisch
Publication Year: 2021,Page(s):755 - 770
(3885 Kb)

Optimum Combiner for Spatially Correlated Nakagami-m Fading Channels

Jia-Chin Lin;H. Vincent Poor
Publication Year: 2021,Page(s):771 - 784
(1224 Kb)

Learning to Compute Ergodic Rate for Multi-Cell Scheduling in Massive MIMO

Junchao Shi;Wenjin Wang;Xinping Yi;Jiaheng Wang;Xiqi Gao;Qing Liu;Geoffrey Ye Li
Publication Year: 2021,Page(s):785 - 797
(1648 Kb)

Joint Symbol-Level Precoding and Reflecting Designs for IRS-Enhanced MU-MISO Systems

Rang Liu;Ming Li;Qian Liu;A. Lee Swindlehurst
Publication Year: 2021,Page(s):798 - 811
Cited by: [Papers \(1\)](#)
(1842 Kb)

Dynamic Hybrid Precoding Relying on Twin-Resolution Phase Shifters in Millimeter-Wave Communication Systems

Chenghao Feng;Wenqian Shen;Xinyu Gao;Jianping An;Lajos Hanzo
Publication Year: 2021,Page(s):812 - 826
(2125 Kb)

Measurements-Based Channel Models for Indoor LiFi Systems

Mohamed Amine Arfaoui;Mohammad Dehghani Soltani;Iman Tavakkolnia;Ali Ghrayeb;Chadi M. Assi;Majid Safari;Harald Haas
Publication Year: 2021,Page(s):827 - 842
(2690 Kb)

Energy-Efficient Design for Massive MIMO With Hardware Impairments

Zhihui Liu;Chia-Han Lee;Wenjun Xu;Shengyu Li
Publication Year: 2021,Page(s):843 - 857
(1553 Kb)

Channel-Correlation-Enabled Transmission Optimization for MISO Wiretap Channels

Shuai Han;Sai Xu;Wei-Xiao Meng;Lei He
Publication Year: 2021,Page(s):858 - 870
(1399 Kb)

Random Access With Layered Preambles Based on NOMA for Two Different Types of Devices in MTC

Jinho Choi
Publication Year: 2021,Page(s):871 - 881
(1054 Kb)

Efficient Prediction of Link Outage in Mobile Optical Wireless Communications

Zi-Yang Wu;Muhammad Ismail;Erchin Serpedin;Jiao Wang
Publication Year: 2021,Page(s):882 - 896
(3021 Kb)

Power-Consumption Outage in Beyond Fifth Generation Mobile Communication Systems

Jing Yang;Xiaohu Ge;John Thompson;Hamid Gharavi
Publication Year: 2021,Page(s):897 - 910
(3914 Kb)

Deep Reinforcement Learning for Delay-Oriented IoT Task Scheduling in SAGIN

Conghao Zhou;Wen Wu;Hongli He;Peng Yang;Feng Lyu;Nan Cheng;Xuemin Shen
Publication Year: 2021,Page(s):911 - 925
(2082 Kb)

Energy-Efficient UAV Backscatter Communication With Joint Trajectory Design and Resource Optimization
Gang Yang;Rao Dai;Ying-Chang Liang
Publication Year: 2021,Page(s):926 - 941
(1791 Kb)

Impact of Pilot Allocation Strategies on Outage in Wireless Energy Transfer Using Massive Antenna Arrays
Mohan Kumar Sarangi;Salil Kashyap
Publication Year: 2021,Page(s):942 - 954
(1320 Kb)

Energy Harvesting Irregular Repetition ALOHA With Replica Concatenation
Talha Akyıldız;Umut Demirhan;Tolga M. Duman
Publication Year: 2021,Page(s):955 - 968
(2376 Kb)

Angular Domain Channel Estimation for mmWave Massive MIMO With One-Bit ADCs/DACs
Liangyuan Xu;Cheng Qian;Feifei Gao;Wei Zhang;Shaodan Ma
Publication Year: 2021,Page(s):969 - 982
(1957 Kb)

Intelligent Reflecting Surface Assisted Beam Index-Modulation for Millimeter Wave Communication
Sarath Gopi;Sheetal Kalyani;Lajos Hanzo
Publication Year: 2021,Page(s):983 - 996
Cited by: [Papers \(2\)](#)
(1219 Kb)

On the Optimal Precoding for MISO-WSN: One Time Slot Detection of Multiple Binary Data on the Same Frequency Band
Pouya Ghofrani;Anke Schmeink
Publication Year: 2021,Page(s):997 - 1010
(1515 Kb)

Impact of Correlated Fading on Multi-Connectivity
Yuhou Chen;Albrecht Wolf;Meik Dörpinghaus;José Cândido Silveira Santos Filho;Gerhard P. Fettweis
Publication Year: 2021,Page(s):1011 - 1022
(1437 Kb)

NOMA in Cooperative Communication Systems With Energy-Harvesting Nodes and Wireless Secure Transmission
Abdelhamid Salem;Leila Musavian
Publication Year: 2021,Page(s):1023 - 1037
(1198 Kb)

Mobile Edge Computing-Enabled Heterogeneous Networks
Chanwon Park;Jemin Lee
Publication Year: 2021,Page(s):1038 - 1051
(3501 Kb)

Joint Transceiver and Large Intelligent Surface Design for Massive MIMO mmWave Systems
Peilan Wang;Jun Fang;Linglong Dai;Hongbin Li
Publication Year: 2021,Page(s):1052 - 1064
(1465 Kb)

Resource Allocation for NOMA Based Space-Terrestrial Satellite Networks
Lina Wang;Yanan Wu;Haijun Zhang;Sunghyun Choi;Victor C. M. Leung
Publication Year: 2021,Page(s):1065 - 1075
(3098 Kb)

Distortion-Aware Cross-Layer Power Allocation for Video Transmission Over Multi-User NOMA Systems
Hancheng Lu;Xiaoda Jiang;Chang Wen Chen
Publication Year: 2021,Page(s):1076 - 1092
(1912 Kb)

Energy-Efficiency Maximization of Hybrid Massive MIMO Precoding With Random-Resolution DACs via RF Selection
Evangelos Vlachos;John Thompson
Publication Year: 2021,Page(s):1093 - 1104
(1131 Kb)

Trajectory Design for UAV-Enabled Multiuser Wireless Power Transfer With Nonlinear Energy Harvesting
Xiaopeng Yuan;Tianyu Yang;Yulin Hu;Jie Xu;Anke Schmeink
Publication Year: 2021,Page(s):1105 - 1121
(1546 Kb)

Meta Learning-Based MIMO Detectors: Design, Simulation, and Experimental Test
Jing Zhang;Yunfeng He;Yu-Wen Li;Chao-Kai Wen;Shi Jin
Publication Year: 2021,Page(s):1122 - 1137
(3079 Kb)

Distributed Task Replication for Vehicular Edge Computing: Performance Analysis and Learning-Based Algorithm
Yuxuan Sun;Sheng Zhou;Zhisheng Niu
Publication Year: 2021,Page(s):1138 - 1151
(1679 Kb)

Deep Learning for Wireless Coded Caching With Unknown and Time-Variant Content Popularity
Zhe Zhang;Meixia Tao
Publication Year: 2021,Page(s):1152 - 1163
(1365 Kb)

5G Positioning and Mapping With Diffuse Multipath
Fuxi Wen;Josef Kulmer;Klaus Witrisal;Henk Wymeersch
Publication Year: 2021,Page(s):1164 - 1174
Cited by: [Papers \(3\)](#)
(2217 Kb)

Energy-Efficient Mode Selection and Resource Allocation for D2D-Enabled Heterogeneous Networks: A Deep Reinforcement Learning Approach
Tao Zhang;Kun Zhu;Junhua Wang
Publication Year: 2021,Page(s):1175 - 1187
(2522 Kb)

Client Selection and Bandwidth Allocation in Wireless Federated Learning Networks: A Long-Term Perspective
Jie Xu;Heqiang Wang
Publication Year: 2021,Page(s):1188 - 1200
(2400 Kb)

Distributed Precoding Design via Over-the-Air Signaling for Cell-Free Massive MIMO
Italo Atzeni;Bikshapathi Gouda;Antti Tölli
Publication Year: 2021,Page(s):1201 - 1216
(1444 Kb)

A dCDD-Based Transmit Diversity Scheme for Downlink Pseudo-NOMA Systems
Kyeong Jin Kim;Hongwu Liu;Hongjiang Lei;Zhiguo Ding;Philip V. Orlik;H. Vincent Poor
Publication Year: 2021,Page(s):1217 - 1232
(1969 Kb)

[Accelerating Generalized Benders Decomposition for Wireless Resource Allocation](#)

Mengyuan Lee;Ning Ma;Guanding Yu;Huaiyu Dai
Publication Year: 2021,Page(s):1233 - 1247
(2663 Kb)

[Online Learning of Optimal Proactive Schedule Based on Outdated Knowledge for Energy Harvesting Powered Internet-of-Things](#)

Xinchen Lyu;Chenshan Ren;Wei Ni;Hui Tian;Qimei Cui;Ren Ping Liu
Publication Year: 2021,Page(s):1248 - 1262
(1648 Kb)

[On the Optimality of the Whittle's Index Policy for Minimizing the Age of Information](#)

Ali Maatouk;Saad Kriouile;Mohamad Assad;Anthony Ephremides
Publication Year: 2021,Page(s):1263 - 1277
Cited by: [Papers \(1\)](#)
(891 Kb)

[Optimization of Frame Structure and Fronthaul Compression for Uplink C-RAN Under Time-Varying Channels](#)

Heejung Yu;Jingon Joung
Publication Year: 2021,Page(s):1278 - 1292
(1361 Kb)

[Channel State Information-Based Ranging for Underwater Acoustic Sensor Networks](#)

Yu Cao;Weiguang Shi;Lijun Sun;Xiaomei Fu
Publication Year: 2021,Page(s):1293 - 1307
(2344 Kb)

[A Multi-Dimensional Intelligent Multiple Access Technique for 5G Beyond and 6G Wireless Networks](#)

Yanan Liu;Xianbin Wang;Gary Boudreau;Akram Bin Sediq;Hatem Abou-Zeid
Publication Year: 2021,Page(s):1308 - 1320
(1758 Kb)

[Resource Allocation and Beamforming Design in the Short Blocklength Regime for URLLC](#)

Ali Arshad Nasir;H. D. Tuan;Ha H. Nguyen;Mérouane Debbah;H. Vincent Poor
Publication Year: 2021,Page(s):1321 - 1335
(1478 Kb)

[On the Performance of Indoor Multi-Story Small-Cell Networks](#)

Chen Chen;Yixin Zhang;Jiliang Zhang;Xiaoli Chu;Jie Zhang
Publication Year: 2021,Page(s):1336 - 1348
(1966 Kb)

[DeepSIC: Deep Soft Interference Cancellation for Multiuser MIMO Detection](#)

Nir Shlezinger;Rong Fu;Yonina C. Eldar
Publication Year: 2021,Page(s):1349 - 1362
(2176 Kb)

[Deep Reinforcement Learning for Joint Channel Selection and Power Control in D2D Networks](#)

Junjie Tan;Ying-Chang Liang;Lin Zhang;Gang Feng
Publication Year: 2021,Page(s):1363 - 1378
(2171 Kb)

[Max-Min Fairness in IRS-Aided Multi-Cell MISO Systems With Joint Transmit and Reflective Beamforming](#)

Hailiang Xie;Jie Xu;Ya-Feng Liu
Publication Year: 2021,Page(s):1379 - 1393
(1583 Kb)

[Iterative Algorithm Induced Deep-Unfolding Neural Networks: Precoding Design for Multiuser MIMO Systems](#)

Qiyu Hu;Yunlong Cai;Qingjiang Shi;Kaidi Xu;Guanding Yu;Zhi Ding
Publication Year: 2021,Page(s):1394 - 1410
Cited by: [Papers \(2\)](#)
(2447 Kb)

[Blind Data Detection in Massive MIMO via \$\ell_3\$ -Norm Maximization Over the Stiefel Manifold](#)

Ye Xue;Yifei Shen;Vincent K. N. Lau;Jun Zhang;Khaled B. Letaief
Publication Year: 2021,Page(s):1411 - 1424
(2378 Kb)

[Extending the Welch Bound: Non-Orthogonal Pilot Sequence Design for Two-Cell Interference Networks](#)

Ji Wang;Jun Sun;Xiaodong Wang;Kai Yang;Yingzhuang Liu
Publication Year: 2021,Page(s):1425 - 1439
(1298 Kb)

[Introducing IEEE Collabratec](#)

Publication Year: 2021,Page(s):1440 - 1440
(2132 Kb)

[IEEE Communications Society](#)

Publication Year: 2021,Page(s):C3 - C3
(143 Kb)

IEEE WIRELESS COMMUNICATIONS LETTERS

A PUBLICATION OF THE IEEE COMMUNICATIONS SOCIETY, THE IEEE SIGNAL PROCESSING SOCIETY, AND THE IEEE VEHICULAR TECHNOLOGY SOCIETY



FEBRUARY 2021

VOLUME 10

NUMBER 2

IWCLAF

ISSN (2162-2345)

Table of contents

Publication Year: 2021, Page(s): C1 - 200
(274 Kb)

IEEE Wireless Communications Letters

Publication Year: 2021, Page(s): C2 - C2
(76 Kb)

Towards High Data Rates in Dynamic Environments Using Hybrid Cell-Free Massive MIMO/Small-Cell System

Salah Elhoushy; Walaa Hamouda
Publication Year: 2021, Page(s): 201 - 205
(873 Kb)

Energy-Efficient Trajectory Design for UAV-Enabled Communication Under Malicious Jamming

Yang Wu; Weiwei Yang; Xinrong Guan; Qingqing Wu
Publication Year: 2021, Page(s): 206 - 210
(877 Kb)

Spatiotemporal Dependable Task Execution Services in MEC-Enabled Wireless Systems

Mustafa Emara; Hesham ElSawy; Miltiades C. Filippou; Gerhard Bauch
Publication Year: 2021, Page(s): 211 - 215
(927 Kb)

Intelligent Reflecting Surface Operation Under Predictable Receiver Mobility: A Continuous Time Propagation Model

Bho Matthiesen; Emil Björnson; Elisabeth De Carvalho; Petar Popovski
Publication Year: 2021, Page(s): 216 - 220
(545 Kb)

Code

Distributed IRS With Statistical Passive Beamforming for MISO Communications

Yuwei Gao; Jindan Xu; Wei Xu; Derrick Wing Kwan Ng; Mohamed-Slim Alouini
Publication Year: 2021, Page(s): 221 - 225
(337 Kb)

On Spatial Multiplexing Using Reconfigurable Intelligent Surfaces

Mohamed A. ElMossallamy; Hongliang Zhang; Radwa Sultan; Karim G. Seddik; Lingyang Song; Geoffrey Ye Li; Zhu Han
Publication Year: 2021, Page(s): 226 - 230
(617 Kb)

Sparse Array Channel Estimation for Subarray-Based Hybrid Beamforming Systems

Joerg Eisenbeis; Nicolai Kern; Magnus Tingulstad; Lucas Giroto de Oliveira; Thomas Zwick
Publication Year: 2021, Page(s): 231 - 235
(576 Kb)

Graph-Theory-Based Resource Allocation and Mode Selection in D2D Communication Systems: The Role of Full-Duplex

Hong-Bae Jeon; Bon-Hong Koo; Sung-Ho Park; Jaedon Park; Chan-Byoung Chae
Publication Year: 2021, Page(s): 236 - 240
(2806 Kb)

Power Optimized and Power Constrained Randomized Gossip Approaches for Wireless Sensor Networks

Jie Zhang
Publication Year: 2021, Page(s): 241 - 245
(793 Kb)

Sparse Multi-User Detection With Imperfect Channel Estimation for NOMA Systems Under Non-Gaussian Noise

Feng Li; Yiting Peng; Wei Chen
Publication Year: 2021, Page(s): 246 - 250
(852 Kb)

Secure and Energy Efficient Transmission for RSMA-Based Cognitive Satellite-Terrestrial Networks

Zhi Lin; Min Lin; Benoit Champagne; Wei-Ping Zhu; Naofal Al-Dhahir
Publication Year: 2021, Page(s): 251 - 255
(1143 Kb)

Outage Probability and Capacity Scaling Law of Multiple RIS-Aided Networks

Liang Yang; Yin Yang; Daniel Benevides da Costa; Imene Trigui
Publication Year: 2021, Page(s): 256 - 260
(573 Kb)

Throughput Performance of Wireless Multiple-Input Multiple-Output Systems Using OAM Antennas

Yi Lei; Yang Yang; Yanzhe Wang; Kai Guo; Yubin Gong; Zhongyi Guo
Publication Year: 2021, Page(s): 261 - 265
(2276 Kb)

CV-3DCNN: Complex-Valued Deep Learning for CSI Prediction in FDD Massive MIMO Systems

Yibin Zhang; Jie Wang; Jinlong Sun; Bamidele Adebisi; Haris Gacanin; Guan Gui; Fumiyuki Adachi
Publication Year: 2021, Page(s): 266 - 270
(1304 Kb)

Pilot and Data Power Allocation in Poisson Interference Field With Protected Zone for Physical-Layer Security
Sungjun Ahn;Sung-Ik Park;Joonhyuk Kang;Seongah Jeong
Publication Year: 2021,Page(s):271 - 275
(1296 Kb)

Joint Optimization for Secure Intelligent Reflecting Surface Assisted UAV Networks
Sisai Fang;Gaojie Chen;Yonghui Li
Publication Year: 2021,Page(s):276 - 280
Cited by: [Papers \(1\)](#)
(350 Kb)

Non-Orthogonal Wireless Backhaul Design for Cell-Free Massive MIMO: An Integrated Computation and Communication Approach
Hanxiao Yu;Neng Ye;Aihua Wang
Publication Year: 2021,Page(s):281 - 285
(876 Kb)

Integer Linear Programming Based Topology Design for GNSSs With Inter-Satellite Links
Zhibo Yan;Guoyong Gu;Kanglian Zhao;Qi Wang;Gang Li;Xin Nie;Hong Yang;Sidan Du
Publication Year: 2021,Page(s):286 - 290
(687 Kb)

The Meta Distributions of Secrecy Rate for the Downlink NOMA Systems
Hongjiang Lei;Rui Gao;Zhi Ren;Ki-Hong Park;Gaofeng Pan;Mohamed-Slim Alouini
Publication Year: 2021,Page(s):291 - 295
(836 Kb)

2D-DOA Estimation of Strictly Noncircular Sources Utilizing Connection-Matrix for L-Shaped Array
Zheng Li;Xiaofei Zhang;Jinqing Shen
Publication Year: 2021,Page(s):296 - 300
(766 Kb)

Uplink Energy Efficiency Distribution With Aerial Users in Cellular Networks
Yassine Hmamouche;Mustapha Benjillali;Samir Saoudi;Daniel Benevides da Costa
Publication Year: 2021,Page(s):301 - 305
(732 Kb)

On the Degrees-of-Freedom for Relay-Aided MIMO Interference Channels With Partial and Delayed CSI
Byungju Lee;Namyoon Lee;Nohgyeom Ha;Wonjae Shin
Publication Year: 2021,Page(s):306 - 310
(650 Kb)

Lower Performance Bound for Beamspace Channel Estimation in Massive MIMO
Alexander Osinsky;Andrey Ivanov;Dmitry Lakontsev;Dmitry Yarotsky
Publication Year: 2021,Page(s):311 - 314
(644 Kb)

User Association for Millimeter-Wave Ultra-Reliable Low-Latency Communications
Rui Liu;Guanding Yu
Publication Year: 2021,Page(s):315 - 319
(523 Kb)

Achievable Secure Degrees of Freedom of MIMO Interference Channel With a Cooperative Jammer
Qiang Wang;Tianjiao Zhang;Dongli Dong
Publication Year: 2021,Page(s):320 - 324
(356 Kb)

Physical Layer Security of Large Reflecting Surface Aided Communications With Phase Errors
José David Vega Sánchez;Pablo Ramírez-Espinosa;F. Javier López-Martínez
Publication Year: 2021,Page(s):325 - 329
(441 Kb)

High Altitude Air-to-Ground Channel Modeling for Fixed-Wing UAV Mounted Aerial Base Stations
Junyu Liu;Hongwei Zhang;Min Sheng;Yu Su;Shengwei Chen;Jiandong Li
Publication Year: 2021,Page(s):330 - 334
(1206 Kb)

Analysis of Cooperative Jamming Cancellation With Imperfect Time Synchronization in Physical Layer Security
Wenbo Guo;Changqing Song;Xiangjie Xia;Fu Hu;Hongzhi Zhao;Shihai Shao;Youxi Tang
Publication Year: 2021,Page(s):335 - 338
(809 Kb)

Deep Residual Learning-Assisted Channel Estimation in Ambient Backscatter Communications
Xuemeng Liu;Chang Liu;Yonghui Li;Branka Vucetic;Derrick Wing Kwan Ng
Publication Year: 2021,Page(s):339 - 343
(1791 Kb)

A Model for Joint Engineering-Economic Analysis of Cellular Systems
Fraida Fund;Shahram Shahsavari;Shivendra S. Panwar;Elza Erkip
Publication Year: 2021,Page(s):344 - 348
(550 Kb)

TDD Massive MISO Piloting Strategy With User Information: A Reinforcement Learning Approach
Guangyi Liu;Seyedmohammad Salehi;Chien-Chung Shen;Leonard J. Cimini
Publication Year: 2021,Page(s):349 - 352
(344 Kb)

Energy Efficiency Maximization in NOMA Enabled Backscatter Communications With QoS Guarantee
Yongjun Xu;Zhijin Qin;Guan Gui;Haris Gacanin;Hikmet Sari;Fumiyuki Adachi
Publication Year: 2021,Page(s):353 - 357
(465 Kb)

Reconfigurable Intelligent Surfaces-Assisted Communications With Discrete Phase Shifts: How Many Quantization Levels Are Required to Achieve Full Diversity?
Peng Xu;Gaojie Chen;Zheng Yang;Marco Di Renzo
Publication Year: 2021,Page(s):358 - 362
(441 Kb)

Optimization of Intelligent Reflecting Surface Assisted Full-Duplex Relay Networks
Zaid Abdullah;Gaojie Chen;Sangarapillai Lambotharan;Jonathon A. Chambers
Publication Year: 2021,Page(s):363 - 367
(605 Kb)

[Covert Communications With Constrained Age of Information](#)

Yida Wang;Shihao Yan;Weiwei Yang;Yueming Cai
Publication Year: 2021,Page(s):368 - 372
(508 Kb)

[Power Allocation for Relayed OFDM With Index Modulation Assisted by Artificial Neural Network](#)

Jiusi Zhou;Shuping Dang;Basem Shihada;Mohamed-Slim Alouini
Publication Year: 2021,Page(s):373 - 377
(1644 Kb)

[Minimizing the Installation Cost of Ground Stations in Satellite Networks: Complexity, Dynamic Programming and Approximation Algorithm](#)

Christos N. Efrem;Athanasios D. Panagopoulos
Publication Year: 2021,Page(s):378 - 382
(591 Kb)

[Detecting Wireless Steganography With Wavelet Analysis](#)

Wonwoo Jang;Wonjun Lee
Publication Year: 2021,Page(s):383 - 386
(982 Kb)

[Sparsity-Aware Direct Equalization of Time-Varying Channels for V2V Communications](#)

Yuting Zhan;Weile Zhang;Hao Deng
Publication Year: 2021,Page(s):387 - 391
(613 Kb)

[Handover Rate and Sojourn Time Analysis in Mobile Drone-Assisted Cellular Networks](#)

Mohammad Salehi;Ekram Hossain
Publication Year: 2021,Page(s):392 - 395
(398 Kb)

[Robust Trajectory and Beamforming Design for Cognitive MISO UAV Networks](#)

Boyang Liu;Yiyao Wan;Fuhui Zhou;Qihui Wu;Rose Qingyang Hu
Publication Year: 2021,Page(s):396 - 400
(556 Kb)

[Legitimate Surveillance of Suspicious Multichannel DF Relay Networks With Monitor Mode Selection](#)

Ding Xu
Publication Year: 2021,Page(s):401 - 405
(525 Kb)

[LEACH-R: LEACH Relay With Cache Strategy for Mobile Robot Swarms](#)

Ying Zhang;TingTing Liu;HongGuang Zhang;YuanAn Liu
Publication Year: 2021,Page(s):406 - 410
(1513 Kb)

[Pre-Compensation-Assisted Generalized Beam Index Modulation \(PC-GBIM\) for mmWave Massive MIMO Over Doubly Selective Channels](#)

Yajun Fan;Shijian Gao;Xiang Cheng;Liuqing Yang
Publication Year: 2021,Page(s):411 - 415
(2374 Kb)

[Impact of RF I/Q Imbalance on Interference-Limited Mixed RF/FSO TWR Systems With Non-Zero Boresight Error](#)

Abhijeet Upadhyay;Juhi Gupta;Vivek K. Dwivedi;Mohamed-Slim Alouini
Publication Year: 2021,Page(s):416 - 420
(1074 Kb)

[Covert Communication With Relay Selection](#)

Yinjie Su;Hongjian Sun;Zhenkai Zhang;Zhuxian Lian;Zhibin Xie;Yajun Wang
Publication Year: 2021,Page(s):421 - 425
(414 Kb)

[Cooperative Beam Routing for Multi-IRS Aided Communication](#)

Weidong Mei;Rui Zhang
Publication Year: 2021,Page(s):426 - 430
(809 Kb)

[Wireless Communication via Double IRS: Channel Estimation and Passive Beamforming Designs](#)

Changsheng You;Beixiong Zheng;Rui Zhang
Publication Year: 2021,Page(s):431 - 435
Cited by: Papers (1)
(1600 Kb)

[Joint Cancellation of Phase Noise and NB-IoT Interference in OFDM System](#)

Feng Li;Hanrong Zhang;Xinmin Luo
Publication Year: 2021,Page(s):436 - 440
(510 Kb)

[A Countermeasure for Traffic Analysis Attacks: Covert Communications With Digital Modulation](#)

Ozan Alp Topal;Gunes Karabulut Kurt
Publication Year: 2021,Page(s):441 - 445
(450 Kb)

[IEEE Communications Society Information](#)

Publication Year: 2021,Page(s):C3 - C3
(70 Kb)

IEEE TRANSACTIONS ON MOBILE COMPUTING

A joint publication of the



IEEE Computer Society



IEEE Circuits and Systems Society



IEEE Signal
Processing Society



IEEE Communications Society

Indexed in ISI

February 2021

A Cloud-Guided Feature Extraction Approach for Image Retrieval in Mobile Edge Computing
Shangguang Wang;Chuntao Ding;Ning Zhang;Xiulong Liu;Ao Zhou;Jiannong Cao;Xuemin Shen
Publication Year: 2021,Page(s):292 - 305
Cited by: Papers (1)
(1778 Kb)

Adversarial Deep Learning for Over-the-Air Spectrum Poisoning Attacks
Yalin E. Sagduyu;Yi Shi;Tugba Erpek
Publication Year: 2021,Page(s):306 - 319
Cited by: Papers (2)
(1367 Kb)

An Adaptive Sensor Fusion Framework for Pedestrian Indoor Navigation in Dynamic Environments
Gunwoo Lee;Suk-Hoon Jung;Dongsoo Han
Publication Year: 2021,Page(s):320 - 336
(3981 Kb)

An Indirect Eavesdropping Attack of Keystrokes on Touch Screen through Acoustic Sensing
Jiadi Yu;Li Lu;Yingying Chen;Yanmin Zhu;Linghe Kong
Publication Year: 2021,Page(s):337 - 351
Cited by: Papers (2)
(2975 Kb)

Augur: Modeling the Resource Requirements of ConvNets on Mobile Devices
Zongqing Lu;Swati Rallapalli;Kevin Chan;Shiliang Pu;Thomas La Porta
Publication Year: 2021,Page(s):352 - 365
Cited by: Papers (1)
(3849 Kb)

Becoming Smarter at Characterizing Potholes and Speed Bumps from Smartphone Data — Introducing a Second-Generation Inference Problem
M. Ricardo Carlos;Luis C. González;Johan Wahlström;Raymundo Cornejo;Fernando Martínez
Publication Year: 2021,Page(s):366 - 376
(3176 Kb)

Collaborative Service Placement for Edge Computing in Dense Small Cell Networks
Lixing Chen;Cong Shen;Pan Zhou;Jie Xu
Publication Year: 2021,Page(s):377 - 390
Cited by: Papers (3)
(1960 Kb)

Cooperative Caching in Vehicular Content Centric Network Based on Social Attributes and Mobility
Lin Yao;Yuqi Wang;Xin Wang;Guowei WU
Publication Year: 2021,Page(s):391 - 402
Cited by: Papers (1)
(1252 Kb)

Cost-Fair Task Allocation in Mobile Crowd Sensing With Probabilistic Users
Guodong Sun;Yanan Wang;Xingjian Ding;Rong Hu
Publication Year: 2021,Page(s):403 - 415
Cited by: Papers (1)
(993 Kb)

Cyclic Three-Sided Matching Game Inspired Wireless Network Virtualization
Neetu Raveendran;Yunan Gu;Chunxiao Jiang;Nguyen H. Tran;Miao Pan;Lingyang Song;Zhu Han
Publication Year: 2021,Page(s):416 - 428
Cited by: Papers (1)
(1261 Kb)

DeepWiFi: Cognitive WiFi with Deep Learning
Kemal Davaslioglu;Sohraab Soltani;Tugba Erpek;Yalin E. Sagduyu
Publication Year: 2021,Page(s):429 - 444
Cited by: Papers (2)
(3048 Kb)

Delay-Aware Virtual Network Function Placement and Routing in Edge Clouds
Song Yang;Fan Li;Stojan Trajanovski;Xu Chen;Yu Wang;Xiaoming Fu
Publication Year: 2021,Page(s):445 - 459
Cited by: Papers (4)
(1758 Kb)

Dynamic Service Entity Placement for Latency Sensitive Applications in Transportation Systems
Yangming Zhao;Xin Liu;Lai Tu;Chen Tian;Chunming Qiao
Publication Year: 2021,Page(s):460 - 472
(1237 Kb)

Energy-Efficient Resource Allocation in C-RANs with Capacity-Limited Fronthaul
Ayman Younis;Tuyen X. Tran;Dario Pompili
Publication Year: 2021,Page(s):473 - 487
Cited by: Papers (1)
(1647 Kb)

ezNavi: An Easy-to-Operate Indoor Navigation System Based on Pedestrian Dead Reckoning and Crowdsourced User Trajectories
Meng-Shiuan Pan;Kuan-Ying Li
Publication Year: 2021,Page(s):488 - 501
(2598 Kb)

Fully Distributed Packet Scheduling Framework for Handling Disturbances in Lossy Real-Time Wireless Networks
Tianyu Zhang;Tao Gong;Song Han;Qingxu Deng;Xiaobo Sharon Hu
Publication Year: 2021,Page(s):502 - 518
(2549 Kb)

Incentivizing Crowdsensing-Based Noise Monitoring with Differentially-Private Locations
Pei Huang;Xiaonan Zhang;Linke Guo;Ming Li
Publication Year: 2021,Page(s):519 - 532
Cited by: Papers (2)
(2273 Kb)

Integrating Fronthaul and Backhaul Networks: Transport Challenges and Feasibility Results
Sergio Gonzalez-Diaz;Andres Garcia-Saavedra;Antonio de la Oliva;Xavier Costa-Perez;Robert Gazda;Alain Mourad;Thomas Deiss;Josep Mangués-Bafalluy;Paola Iovanna;Stefano Stracca;Phillip Leithead
Publication Year: 2021,Page(s):533 - 549
(4004 Kb)

IoTorch: Reliable LED-to-Camera Communication Against Inter-Frame Gaps and Frame Drops
Yuki Hokazono;Aoi Koizuka;Guibing Zhu;Makoto Suzuki;Yoshiaki Narusue;Hiroyuki Morikawa
Publication Year: 2021,Page(s):550 - 564
(4145 Kb)

JointDNN: An Efficient Training and Inference Engine for Intelligent Mobile Cloud Computing Services
Amir Erfan Eshratifar;Mohammad Saeed Abrishami;Massoud Pedram
Publication Year: 2021,Page(s):565 - 576
Cited by: Papers (9)
(2397 Kb)

Low-Overhead Wireless Uplink Scheduling for Large-Scale Internet-of-Things
Bin Li;Jia Liu;Bo Ji
Publication Year: 2021,Page(s):577 - 587
(700 Kb)

M3M3: Multipath Assisted Wi-Fi Localization with a Single Access Point
Zhe Chen;Guorong Zhu;Sulei Wang;Yuedong Xu;Jie Xiong;Jin Zhao;Jun Luo;Xin Wang
Publication Year: 2021,Page(s):588 - 602
Cited by: Papers (1)
(3037 Kb)

Maximizing Fairness for Resource Allocation in Heterogeneous 5G Networks
Ajay Pratap;Rajiv Misra;Sajal K. Das
Publication Year: 2021,Page(s):603 - 619
(1720 Kb)

No More than What I Post: Preventing Linkage Attacks on Check-in Services
Fengli Xu;Yong Li;Zhen Tu;Shuhao Chang;Hongjia Huang
Publication Year: 2021,Page(s):620 - 633
Cited by: Papers (1)
(3544 Kb)

OmniTrack: Orientation-Aware RFID Tracking With Centimeter-Level Accuracy
Chengkun Jiang;Yuan He;Xiaolong Zheng;Yunhao Liu
Publication Year: 2021,Page(s):634 - 646
(3113 Kb)

On the Data Quality in Privacy-Preserving Mobile Crowdsensing Systems with Untruthful Reporting
Cong Zhao;Shusen Yang;Julie A. McCann
Publication Year: 2021,Page(s):647 - 661
(2075 Kb)

Optimal ADMM-Based Spectrum and Power Allocation for Heterogeneous Small-Cell Networks with Hybrid Energy Supplies
Li Ping Qian;Yuan Wu;Bo Ji;Xuemin Sherman Shen
Publication Year: 2021,Page(s):662 - 677
Cited by: Papers (1)
(1902 Kb)

Optimal Multicasting Strategies in Underwater Acoustic Networks
Linbo Zhang;Tong Liu;Mehul Motani
Publication Year: 2021,Page(s):678 - 690
(2173 Kb)

Portfolio Optimization in Traffic Offloading: Concept, Model, and Algorithms
Dianlei Xu;Yong Li;Tong Xia;Jianbo Li;Pan Hui
Publication Year: 2021,Page(s):691 - 706
Cited by: Papers (1)
(2186 Kb)

Radio Resource Sharing and Edge Caching with Latency Constraint for Local 5G Operator: Geometric Programming Meets Stackelberg Game
Tachporn Sanguanpuak;Dusit Niyato;Nandana Rajatheva;Matti Latva-Aho
Publication Year: 2021,Page(s):707 - 721
(1883 Kb)

RF-3DScan: RFID-based 3D Reconstruction on Tagged Packages
Yanling Bu;Lei Xie;Yinyin Gong;Jia Liu;Bingbing He;Jiannong Cao;Baoliu Ye;Sanglu Lu
Publication Year: 2021,Page(s):722 - 738
Cited by: Papers (3)
(3565 Kb)

Simultaneous Material Identification and Target Imaging with Commodity RFID Devices
Ju Wang;Jie Xiong;Xiaojiang Chen;Hongbo Jiang;Rajesh Krishna Balan;Dingyi Fang
Publication Year: 2021,Page(s):739 - 753
(4189 Kb)

Vernier: Accurate and Fast Acoustic Motion Tracking Using Mobile Devices
Yunhao Liu;Jiliang Wang;Yunting Zhang;Linsong Cheng;Weiyi Wang;Zhao Wang;Weimin Xu;Zhenjiang Li
Publication Year: 2021,Page(s):754 - 764
(2253 Kb)

SWIM: Speed-Aware WiFi-Based Passive Indoor Localization for Mobile Ship Environment
Mozi Chen;Kezhong Liu;Jie Ma;Yu Gu;Zheng Dong;Cong Liu
Publication Year: 2021,Page(s):765 - 779
Cited by: Papers (1)
(3802 Kb)

Networking

Table of Contents

Publication Year: 2021,Page(s):C1 - C4
(441 Kb)

IEEE/ACM Transactions on Networking Publication Information

Publication Year: 2021,Page(s):C2 - C2
(79 Kb)

O Peer, Where Art Thou? Uncovering Remote Peering Interconnections at IXPs

Vasileios Giotsas;George Nomikos;Vasileios Kotronis;Pavlos Sermpezis;Petros Gigis;Lefteris Manassakis;Christoph Dietzel;Stavros Konstantaras;Xenofontas Dimitropoulos
Publication Year: 2021,Page(s):1 - 16
(3583 Kb)

AggreFlow: Achieving Power Efficiency, Load Balancing, and Quality of Service in Data Center Networks

Zehua Guo;Yang Xu;Ya-Feng Liu;Sen Liu;H. Jonathan Chao;Zhi-Li Zhang;Yuanqing Xia
Publication Year: 2021,Page(s):17 - 33
(2639 Kb)

Service Placement for Collaborative Edge Applications

Lin Wang;Lei Jiao;Ting He;Jun Li;Henri Bal
Publication Year: 2021,Page(s):34 - 47
(1952 Kb)

Radiation Constrained Wireless Charger Placement

Haipeng Dai;Yunhuai Liu;Nan Yu;Chaofeng Wu;Guihai Chen;Tian He;Alex X. Liu
Publication Year: 2021,Page(s):48 - 64
(3387 Kb)

Parallel Backscatter in the Wild: When Burstiness and Randomness Play With You

Meng Jin;Yuan He;Xin Meng;Dingyi Fang;Xiaojiang Chen
Publication Year: 2021,Page(s):65 - 77
(3846 Kb)

vSFC: Generic and Agile Verification of Service Function Chains in the Cloud

Xiaoli Zhang;Qi Li;Zeyu Zhang;Jianping Wu;Jiahai Yang
Publication Year: 2021,Page(s):78 - 91
(2001 Kb)

Collaborative Validation of Public-Key Certificates for IoT by Distributed Caching

Minmei Wang;Chen Qian;Xin Li;Shouqian Shi;Shigang Chen
Publication Year: 2021,Page(s):92 - 105
(2395 Kb)

Conflict-Free Scheduling in Cellular V2X Communications

Zahra Naghsh;Shahrokh Valaee
Publication Year: 2021,Page(s):106 - 119
(2155 Kb)

Joint Workload Distribution and Capacity Augmentation in Hybrid Datacenter Networks

Weng Chon Ao;Po-Han Huang;Konstantinos Psounis
Publication Year: 2021,Page(s):120 - 133
(2312 Kb)

Flow-Aware Adaptive Pacing to Mitigate TCP Incast in Data Center Networks

Shaojun Zou;Jiawei Huang;Jianxin Wang;Tian He
Publication Year: 2021,Page(s):134 - 147
(3346 Kb)

Optimal Pricing for Peer-to-Peer Sharing With Network Externalities

Yunpeng Li;Costas A. Courcoubetis;Lingjie Duan;Richard Weber
Publication Year: 2021,Page(s):148 - 161
(1328 Kb)

Fine-Grained Trajectory Optimization of Multiple UAVs for Efficient Data Gathering from WSNs

Chuanwen Luo;Meghana N. Satpute;Deying Li;Yongcai Wang;Wenping Chen;Weili Wu
Publication Year: 2021,Page(s):162 - 175
(1615 Kb)

Approximation Algorithms for the Generalized Team Orienteering Problem and its Applications

Wenzheng Xu;Weifa Liang;Zichuan Xu;Jian Peng;Dezhong Peng;Tang Liu;Xiaohua Jia;Sajal K. Das
Publication Year: 2021,Page(s):176 - 189
(1743 Kb)

Maximizing k-Terminal Network Reliability in Some Sparse Graphs

Zuyuan Zhang;Fangming Shao;Nan Zhang;Yifeng Niu
Publication Year: 2021,Page(s):190 - 202
(2151 Kb)

Delay and Stability Analysis of Connection-Based Slotted-Aloha

Huanhuan Huang;Tong Ye;Tony T. Lee;Weiqiang Sun
Publication Year: 2021,Page(s):203 - 219
(1775 Kb)

High-Throughput Bin Packing: Scheduling Jobs With Random Resource Demands in Clusters

Konstantinos Psychasand;Javad Ghaderi
Publication Year: 2021,Page(s):220 - 233
(893 Kb)

Probabilistic Forwarding of Coded Packets on Networks

B. R. Vinay Kumar;Navin Kashyap
Publication Year: 2021,Page(s):234 - 247
(1203 Kb)

Incremental Server Deployment for Software-Defined NFV-Enabled Networks

Jianchun Liu;Hongli Xu;Gongming Zhao;Chen Qian;Xingpeng Fan;Xuwei Yang;He Huang
Publication Year: 2021,Page(s):248 - 261
(2879 Kb)

Failure Resiliency With Only a Few Tunnels – Enabling Segment Routing for Traffic Engineering

Timmy Schüller;Nils Aschenbruck;Markus Chimani;Martin Horneffer
Publication Year: 2021,Page(s):262 - 274
(3165 Kb)

Robust Distributed Monitoring of Traffic Flows

Vitalii Demianiuk;Sergey Gorinsky;Sergey I. Nikolenko;Kirill Kogan
Publication Year: 2021,Page(s):275 - 288
(1564 Kb)

Beyond QoE: Diversity Adaptation in Video Streaming at the Edge

Chunyu Qiao;Jiliang Wang;Yunhao Liu
Publication Year: 2021,Page(s):289 - 302
(5457 Kb)

Cooperative Intersection Crossing Over 5G

Luca Maria Castiglione;Paolo Falcone;Alberto Petrillo;Simon Pietro Romano;Stefania Santini
Publication Year: 2021,Page(s):303 - 317
(2289 Kb)

HighwayNoC: Approaching Ideal NoC Performance With Dual Data Rate Routers

Ahsen Ejaz;Vassilis Papaefstathiou;Ioannis Sourdis
Publication Year: 2021,Page(s):318 - 331
(2794 Kb)

Network-Wide Forwarding Anomaly Detection and Localization in Software Defined Networks

Peng Zhang;Fangzheng Zhang;Shimin Xu;Zuoru Yang;Hao Li;Qi Li;Huanzhao Wang;Chao Shen;Chengchen Hu
Publication Year: 2021,Page(s):332 - 345
(1913 Kb)

An Analytical Model and Performance Evaluation of Multihomed Multilane VANETs

Saadallah Kassir;Pablo Caballero Garces;Gustavo de Veciana;Nannan Wang;Xi Wang;Paparao Palacharla
Publication Year: 2021,Page(s):346 - 359
(1969 Kb)

An Actor-Critic-Based Transfer Learning Framework for Experience-Driven Networking

Zhiyuan Xu;Dejun Yang;Jian Tang;Yinan Tang;Tongtong Yuan;Yanzhi Wang;Guoliang Xue
Publication Year: 2021,Page(s):360 - 371
(1579 Kb)

CSI Fingerprinting Localization With Low Human Efforts

Xinyu Tong;Yang Wan;Qianru Li;Xiaohua Tian;Xinbing Wang
Publication Year: 2021,Page(s):372 - 385
(3574 Kb)

A Multi-Feature Diffusion Model: Rumor Blocking in Social Networks

Jianxiong Guo;Tiantian Chen;Weili Wu
Publication Year: 2021,Page(s):386 - 397
(2104 Kb)

Federated Learning Over Wireless Networks: Convergence Analysis and Resource Allocation

Canh T. Dinh;Nguyen H. Tran;Minh N. H. Nguyen;Choong Seon Hong;Wei Bao;Albert Y. Zomaya;Vincent Gramoli
Publication Year: 2021,Page(s):398 - 409
(1884 Kb)

Chase++: Fountain-Enabled Fast Flooding in Asynchronous Duty Cycle Networks

Zhichao Cao;Jiliang Wang;Daibo Liu;Qiang Ma;Xin Miao;Xufei Mao
Publication Year: 2021,Page(s):410 - 422
(1744 Kb)

A Verified Session Protocol for Dynamic Service Chaining

Pamela Zave;Fabrício B. Carvalho;Ronaldo A. Ferreira;Jennifer Rexford;Masaharu Morimoto;Xuan Kelvin Zou
Publication Year: 2021,Page(s):423 - 437
(2108 Kb)

Joint Reducer Placement and Coflow Bandwidth Scheduling for Computing Clusters

Yangming Zhao;Chen Tian;Jingyuan Fan;Tong Guan;Xiaoning Zhang;Chunming Qiao
Publication Year: 2021,Page(s):438 - 451
(1742 Kb)

SoftHM: A Software-Based Hierarchical Modulation Design for Wireless System

Weiwei Chen;Yunhuai Liu;Tian He
Publication Year: 2021,Page(s):452 - 464
(2695 Kb)

Waiting But Not Aging: Optimizing Information Freshness Under the Pull Model

Fengjiao Li;Yu Sang;Zhongdong Liu;Bin Li;Huasen Wu;Bo Ji
Publication Year: 2021,Page(s):465 - 478
(1671 Kb)

List of Reviewers

Publication Year: 2021,Page(s):479 - 487
(74 Kb)

IEEE/ACM Transactions on Networking Information for Authors

Publication Year: 2021,Page(s):488 - 488
(118 Kb)

IEEE/ACM Transactions on Networking Society Information

Publication Year: 2021,Page(s):C3 - C3
(1477 Kb)

JOURNAL OF Optical Communications and Networking

February 2021

100 Gbps/λ PON downstream O- and C-band alternatives using direct-detection and linear-impairment equalization [Invited]
Pablo Torres-Ferrera;Haoyi Wang;Valter Ferrero;Roberto Gaudino
Publication Year: 2021,Page(s):A111 - A123
(9429 Kb)

Technoeconomic analysis of spatial channel networks (SCNs): benefits from spatial bypass and spectral grooming [Invited]
Masahiko Jinno;Yu Asano;Yoshiki Azuma;Takahiro Kodama;Riku Nakai
Publication Year: 2021,Page(s):A124 - A134
(3629 Kb)

Efficient preamble design and digital signal processing in upstream burst-mode detection of 100G TDM coherent-PON
Junwen Zhang;Zhensheng Jia;Mu Xu;Haipeng Zhang;Luis Alberto Campos
Publication Year: 2021,Page(s):A135 - A143
(8792 Kb)

Optical network security management: requirements, architecture, and efficient machine learning models for detection of evolving threats [Invited]
Marija Furdek;Carlos Natalino;Andrea Di Giglio;Marco Schiano
Publication Year: 2021,Page(s):A144 - A155
(3894 Kb)

Assessment on the in-field lightpath QoT computation including connector loss uncertainties
Alessio Ferrari;Karthikeyan Balasubramanian;Mark Filer;Yawei Yin;Esther Le Rouzic;Jan Kundrat;Gert Grammel;Gabriele Galimberti;Vittorio Curri
Publication Year: 2021,Page(s):A156 - A164
(4077 Kb)

Hybrid-learning-assisted impairments abstraction framework for service planning and provisioning over multi-domain optical networks
Rui Wang;Reza Nejabati;Dimitra Simeonidou
Publication Year: 2021,Page(s):A165 - A177
(7176 Kb)

Indoor optical wireless access networks—recent progress [Invited]
Ampalavanapillai Nirmalathas;Tingting Song;Sampath Edirisinghe;Ke Wang;Christina Lim;Elaine Wong;Chathurika Ranaweera;Kamal Alameh
Publication Year: 2021,Page(s):A178 - A186
(5752 Kb)

Programmable VCSEL-based photonic system architecture for future agile Tb/s metro networks
M. Svaluto Moreolo;J. M. Fabrega;L. Nadal;R. Martinez;R. Casellas;J. Vilchez;R. Munoz;R. Vilalta;A. Gatto;P. Parolari;P. Boffi;C. Neumeyr;D. Larrabeiti;G. Otero;J. P. Fernandez-Palacios
Publication Year: 2021,Page(s):A187 - A199
(9966 Kb)

Enabling technologies for low-latency service migration in 5G transport networks [Invited]
Jun Li;Lei Chen;Jiajia Chen
Publication Year: 2021,Page(s):A200 - A210
(4452 Kb)

Networks and
Switching

Systems and
Subsystems

Optical Waveguides
and Components

Journal of Lightwave Technology

This Print Collection Contains the Following Issues:

January 1, 2021	Volume 39	Number 1	JLTEDG
January 15, 2021	Volume 39	Number 2	
February 1, 2021	Volume 39	Number 3	
February 15, 2021	Volume 39	Number 4	

January 1

[Front cover]

Publication Year: 2021,Page(s):C1 - C1
(96 Kb)

Journal of Lightwave Technology

Publication Year: 2021,Page(s):C2 - C2
(83 Kb)

Table of Contents

Publication Year: 2021,Page(s):1 - 3
(58 Kb)

You Calculate and I Provision: A DRL-Assisted Service Framework to Realize Distributed and Tenant-Driven Virtual Network Slicing
Xu Zhang;Baojia Li;Jianquan Peng;Xiaoqin Pan;Zuqing Zhu
Publication Year: 2021,Page(s):4 - 16
(2701 Kb)

A Combined Radar & Lidar System Based on Integrated Photonics in Silicon-on-Insulator
Fabio Falconi;Suzanne Melo;Filippo Scotti;Muhammad Nouman Malik;Mirco Scaffardi;Claudio Porzi;Luigi Ansalone;Paolo Ghelfi;Antonella Bogoni
Publication Year: 2021,Page(s):17 - 23
(1673 Kb)

Accurate Estimation of Chromatic Dispersion for Non-Degenerate Phase-Sensitive Amplification
Shimpei Shimizu;Takushi Kazama;Takayuki Kobayashi;Takeshi Umeki;Koji Enbutsu;Ryoichi Kasahara;Yutaka Miyamoto
Publication Year: 2021,Page(s):24 - 32
(3458 Kb)

Performance Analysis Under Double Sided Clipping and Real Time Implementation of DCO-GFDM in VLC Systems
Vejandla Kishore;Siva Prasad Valluri;Venkata Mani Vakamulla;Mathini Sellathurai;Abhinav Kumar;Tharmalingam Ratnarajah
Publication Year: 2021,Page(s):33 - 41
(2736 Kb)

Analysis of Inter-Core Crosstalk in Weakly-Coupled Multi-Core Fiber Coherent Systems
Bruno R. P. Pinheiro;João L. Rebola;Adolfo V. T. Cartaxo
Publication Year: 2021,Page(s):42 - 54
(2440 Kb)

640-Gbps/Carrier WDM Transmission over 6,400 km Based on PS-16QAM at 106 Gbaud Employing Advanced DSP
Miao Kong;Kaihui Wang;Junjie Ding;Jiao Zhang;Weiping Li;Junting Shi;Feng Wang;Li Zhao;Cuiwei Liu;Yanyi Wang;Wen Zhou;Jianjun Yu
Publication Year: 2021,Page(s):55 - 63
(2158 Kb)

Accelerating Assessments of Optical Components Using Machine Learning: TDECQ as Demonstrated Example
Siddharth Varughese;Alirio Melgar;Varghese A. Thomas;Pavel Zivny;Shane Hazzard;Stephen E. Ralph
Publication Year: 2021,Page(s):64 - 72
(3239 Kb)

Nonlinear Equalization Based on Artificial Neural Network in DML-Based OFDM Transmission Systems
Wei-Hsiang Huang;Hong-Minh Nguyen;Chung-Wen Wang;Min-Chi Chan;Chia-Chien Wei;Jyehong Chen;Hidenori Taga;Takehiro Tsuritani
Publication Year: 2021,Page(s):73 - 82
(3240 Kb)

Stable and Highly Efficient Free-Space Optical Wireless Communication System Based on Polarization Modulation and In-Fiber Diffraction
Guoqing Wang;Li-Yang Shao;Dongrui Xiao;Sankhyabrata Bandyopadhyay;Jiahao Jiang;Shuaiqi Liu;Wenting Li;Chao Wang;Zhijun Yan
Publication Year: 2021,Page(s):83 - 90
(2703 Kb)

Tunable Orbital Angular Momentum Converter Based on Integrated Multiplexers
M. N. Malik;N. Zhang;V. Toccafondo;C. Klitis;M. Lavery;A. Sgambelluri;J. Zhu;X. Cai;S. Yu;G. Preve;M. Sorel;A. Bogoni;M. Scaffardi
Publication Year: 2021,Page(s):91 - 97
(2751 Kb)

DMT Transmission in Short-Reach Optical Interconnection Employing a Novel Bit-Class Probabilistic Shaping Scheme
Ze Dong;Yifan Chen;Dongdong Zou;Xue Zhao;Lin Zhou;Fan Li
Publication Year: 2021,Page(s):98 - 104
(1322 Kb)

Linewidth Sharpening in Optical Frequency Combs via a Gain Switched Semiconductor Laser With External Optical Feedback
Yuanlong Fan;Kang Li;Pu Li;Bethan Copner;Nigel Joseph Copner
Publication Year: 2021,Page(s):105 - 111
(2199 Kb)

SI-POF Supporting Power-Over-Fiber in Multi-Gbit/s Transmission for In-Home Networks
Fahad M. A. Al-Zubaidi;David Sánchez Montero;Carmen Vázquez
Publication Year: 2021,Page(s):112 - 121
(3732 Kb)

Theoretical and Experimental Investigations of Interleaved Carrier-Assisted Differential Detection
Tonghui Ji;Chuanbown Sun;Honglin Ji;Zhaopeng Xu;Yunfeng Peng;William Shieh
Publication Year: 2021,Page(s):122 - 128
(3085 Kb)

Enhanced Prediction Performance of a Neuromorphic Reservoir Computing System Using a Semiconductor Nanolaser With Double Phase Conjugate Feedbacks
Xing Xing Guo;Shui Ying Xiang;Yan Qu;Ya Nan Han;Ai Jun Wen;Yue Hao
Publication Year: 2021,Page(s):129 - 135
(2334 Kb)

Estimating the Outage Probability Due to Polarization Dependent Loss Using Threshold Exceedances
John Cartledge;A. I. Abd El-Rahman
Publication Year: 2021,Page(s):136 - 145
(3310 Kb)

Fabrication-Tolerant CWDM (de)Multiplexer Based on Cascaded Mach-Zehnder Interferometers on Silicon-on-Insulator
Tzu-Hsiang Yen;Yung-Jr Hung
Publication Year: 2021,Page(s):146 - 153
(4647 Kb)

3D Polymer Based 1x4 Beam Splitter
Peter Gašo;Dušan Pudiš;Dana Seyringer;Anton Kuzma;Lenka Gajdošová;Tomáš Mizera;Matej Gorauš
Publication Year: 2021,Page(s):154 - 161
(1786 Kb)

Ultracompact Channel Add-Drop Filter Based on Single Multimode Nanobeam Photonic Crystal Cavity
Ping Yu;Huiye Qiu;Tingge Dai;Rui Cheng;Bin Lian;Weijun Li;Hui Yu;Jianyi Yang
Publication Year: 2021,Page(s):162 - 166
(1353 Kb)

Bayesian Optimization With Improved Scalability and Derivative Information for Efficient Design of Nanophotonic Structures
Xavier Garcia-Santiago;Sven Burger;Carsten Rockstuhl;Philipp-Immanuel Schneider
Publication Year: 2021,Page(s):167 - 177
(2248 Kb)

High-Speed Femto-Joule per Bit Silicon-Conductive Oxide Nanocavity Modulator
Erwen Li;Bokun Zhou;Yunfei Bo;Alan X. Wang
Publication Year: 2021,Page(s):178 - 185
(2998 Kb)

19-Element 2D Top-Emitting VCSEL Arrays
Nasibeh Haghighi;Philip Moser;Martin Zorn;James A. Lott
Publication Year: 2021,Page(s):186 - 192
(5767 Kb)

Low-Loss and Small $2 \times 4\lambda$ Multiplexers Based on 2×2 and 2×1 Mach-Zehnder Interferometers With On-Chip Polarization Multiplexing for 400GbE
Takeshi Fujisawa;Junya Takano;Yusuke Sawada;Kunimasa Saitoh
Publication Year: 2021,Page(s):193 - 200
(2896 Kb)

High Bandwidth Capacitance Efficient Silicon MOS Modulator
Weiwei Zhang;Kapil Debnath;Bigeng Chen;Ke Li;Shenghao Liu;Martin Ebert;Jamie Dean Reynolds;Ali Z. Khokhar;Callum Littlejohns;James Byers;Muhammad K. Husain;Frederic Y. Gardes;Shinichi Saito;David J. Thomson
Publication Year: 2021,Page(s):201 - 207
(2894 Kb)

Optical Amplifier Response Estimation Considering Non-Flat Input Signals Characterization Based on Artificial Neural Networks
Erick de Andrade Barboza;Allan Amaro Bezerra da Silva;José Carlos Pinheiro Filho;Marcionilo José da Silva;Carmelo J. A. Bastos-Filho;Joaquim Ferreira Martins-Filho
Publication Year: 2021,Page(s):208 - 215
(1679 Kb)

Multiple Mode Couplings in a Waveguide Array for Broadband Near-Zero Dispersion and Supercontinuum Generation
Saleha Fatema;Md Borhan Mia;Sangsik Kim
Publication Year: 2021,Page(s):216 - 222
(2041 Kb)

An Epsilon-Near-Zero (ENZ) Based, Ultra-Wide Bandwidth Terahertz Single-Polarization Single-Mode Photonic Crystal Fiber
Tianyu Yang;Can Ding;Richard W. Ziolkowski;Y. Jay Guo
Publication Year: 2021,Page(s):223 - 232
(3542 Kb)

Designing High-Performance Multimode Fibers Using Refractive Index Optimization
Karthik Choutagunta;Joseph M. Kahn
Publication Year: 2021,Page(s):233 - 242
(856 Kb)

Wavelength Switchable Multi-Wavelength Erbium-Doped Fiber Laser Based on Polarization-Dependent Loss Modulation
Yuan Li;Yang Shen;Jiajun Tian;Qi Fu;Yong Yao
Publication Year: 2021,Page(s):243 - 250
(2360 Kb)

Optical Fiber Technologies for Nanomanipulation and Biodetection: A Review
Yuchao Li;Hongbao Xin;Yao Zhang;Baojun Li
Publication Year: 2021,Page(s):251 - 262
(3551 Kb)

Heat Load Influence on Supermodes in Yb-Doped Four-Core Fibers
Federica Poli;Jesper Lægsgaard;Annamaria Cucinotta;Stefano Selleri
Publication Year: 2021,Page(s):263 - 269
(1743 Kb)

Precise on-Fiber Plasmonic Spectroscopy Using a Gradient-Index Microlens
Peipei Jia;Depeng Kong;Jiawen Li;Erik Schartner;Heike Ebendorff-Heidepriem
Publication Year: 2021,Page(s):270 - 274
(2651 Kb)

High-Resolution Detection of Wavelength Shift Induced by an Erbium-Doped Fiber Bragg Grating
Li Kai;Junqiang Sun;Ya Gao
Publication Year: 2021,Page(s):275 - 281
(3251 Kb)

Smartphone-Based Interrogation of a Chirped FBG Strain Sensor Inscribed in a Multimode Fiber
Aleksandr A. Markvart;Leonid B. Liokumovich;Iurii O. Medvedev;Nikolai A. Ushakov
Publication Year: 2021,Page(s):282 - 289
(1840 Kb)

Design and Fabrication of a Functional Fiber for Micro Flow Sensing
Tingting Yuan;Xiaotong Zhang;Qi Xia;Yiping Wang;Libo Yuan
Publication Year: 2021,Page(s):290 - 294
(1040 Kb)

Suppression of the Interference Fading in Phase-Sensitive OTDR With Phase-Shift Transform
Haijun He;Lianshan Yan;Heng Qian;Yin Zhou;Xinpu Zhang;Bin Luo;Wei Pan;Xinyu Fan;Zuyuan He
Publication Year: 2021,Page(s):295 - 302
(4597 Kb)

A Proposal for a High-Sensitivity Optical MEMS Accelerometer With a Double-Mode Modulation System
Kun Huang;Yunlong Nie;Yuxiang Liu;Pengyue Liu;Liqin Cao;Qi Wang;Lin Cheng;Jiangong Cui;Xiuying Gao;Jie Li
Publication Year: 2021,Page(s):303 - 309
(2044 Kb)

Dual-Point Refractive Index Measurements Using Coupled Seven-Core Fibers
Nataanael Cuando-Espitia;Miguel A. Fuentes-Fuentes;Daniel Alberto May-Arrijoa;Iván Hernández-Romano;Rodolfo Martínez-Manuel;Miguel Torres-Cisneros
Publication Year: 2021,Page(s):310 - 319
(3955 Kb)

Laser-Controlled Fano Resonance Sensing Based on WGM Coupling in Eccentric Hole Fibers Integrated With Azobenzene
Xiangqian Hu;Hao Zhang;Wei Lin;Yujia Wang;Bo Liu
Publication Year: 2021,Page(s):320 - 327
(3167 Kb)

Distributed Sensors Assisted by Modulated First-Order Raman Amplification
Javier Nuño;Hugo F. Martins;Sonia Martin-Lopez;Juan D. Ania-Castañón;Miguel Gonzalez-Herraez
Publication Year: 2021,Page(s):328 - 335
(1879 Kb)

Erratum to "Angle-Resolved Characterization and Ray-Optics Modeling of Fiber-Optic Sensors"
George. Y. Chen;Christophe A. Codemard;Philip M. Gorman;Jaclyn S. Chan;Michalis N. Zervas
Publication Year: 2021,Page(s):336 - 336
(42 Kb)

TechRxiv: Share Your Preprint Research with the World!
Publication Year: 2021,Page(s):337 - 337
(380 Kb)

Expand Your Network, Get Rewarded
Publication Year: 2021,Page(s):338 - 338
(986 Kb)

Information For Authors
Publication Year: 2021,Page(s):C3 - C3
(44 Kb)

[Blank page]
Publication Year: 2021,Page(s):C4 - C4
(4 Kb)

January 15

[Front cover]
Publication Year: 2021,Page(s):C1 - C1
(96 Kb)

Journal of Lightwave Technology
Publication Year: 2021,Page(s):C2 - C2
(83 Kb)

Table of Contents
Publication Year: 2021,Page(s):337 - 339
(56 Kb)

Beyond 1.6 Tb/s Net Rate PAM Signal Transmission for Rack-Rack Optical Interconnects With Mode and Wavelength Division Multiplexing
Dongdong Zou;Fan Li;Wei Wang;Zixuan Zhang;Jinkun Hu;Jianping Li;Qi Sui;Chao Lu;Zhaohui Li
Publication Year: 2021,Page(s):340 - 346
(2055 Kb)

Microwave Photonic Wideband Distributed Coherent Aperture Radar With High Robustness to Time Synchronization Error
Xuedi Xiao;Shangyuan Li;Shaowen Peng;Xiaoxiao Xue;Xiaoping Zheng;Bingkun Zhou
Publication Year: 2021,Page(s):347 - 356
Cited by: Papers (1)
(3290 Kb)

Cost-Effective Photonics-Based THz Wireless Transmission Using PAM-N Signals in the 0.3 THz Band
Sang-Rok Moon;Minkyu Sung;Joon Ki Lee;Seung-Hyun Cho
Publication Year: 2021,Page(s):357 - 362
(2309 Kb)

Low-Complexity Geometric Shaping
Ali Mirani;Erik Agrell;Magnus Karlsson
Publication Year: 2021,Page(s):363 - 371
Cited by: Papers (1)
(1843 Kb)

High Capacity Converged Passive Optical Network and RoF-Based 5G+ Fronthaul Using 4-PAM and NOMA-CAP Signals
Samael Sarmiento;José Manuel Delgado Mendinueta;José Antonio Altabás;Salvatore Spadaro;Satoshi Shinada;Hideaki Furukawa;Juan José Vegas Olmos;José Antonio Lázaro;Naoya Wada
Publication Year: 2021,Page(s):372 - 380
(4201 Kb)

Bias Scheme Comparison for a Folding Image-Rejecting Microwave Photonic Link
Bryan M. Haas;Jason D. McKinney
Publication Year: 2021,Page(s):381 - 387
(1458 Kb)

Coupled Transceiver-Fiber Nonlinearity Compensation Based on Machine Learning for Probabilistic Shaping System
Tu T. Nguyen;Tingting Zhang;Elias Giacomidis;Abdallah A.I. Ali;Mingming Tan;Paul Harper;Liam P. Barry;Andrew D. Ellis
Publication Year: 2021,Page(s):388 - 399
(2708 Kb)

Probabilistically Shaped 4-PAM for Short-Reach IM/DD Links With a Peak Power Constraint
Thomas Wiegart;Francesco Da Ros;Metodi Plamenov Yankov;Fabian Steiner;Simone Gaiarin;Richard D. Wesel
Publication Year: 2021,Page(s):400 - 405
Cited by: Papers (1)
(742 Kb)

Non-Standalone 5G NR Fiber-Wireless System Using FSO and Fiber-Optics Fronthauls
Celso Henrique de Souza Lopes;Eduardo Saia Lima;Luiz Augusto Melo Pereira;Ramon Maia Borges;Alexandre Carvalho Ferreira;Marcelo Abreu;Whebert Damascena Dias;Danilo Henrique Spadoti;Luciano Leonel Mendes;Arismar Cerqueira Sodre Junior
Publication Year: 2021,Page(s):406 - 417
(4901 Kb)

End-to-End Optimization of Coherent Optical Communications Over the Split-Step Fourier Method Guided by the Nonlinear Fourier Transform Theory
Simone Gaiarin;Francesco Da Ros;Rasmus T. Jones;Darko Zibar
Publication Year: 2021,Page(s):418 - 428
Cited by: Papers (1)
(1261 Kb)

Multi-Band Programmable Gain Raman Amplifier
Uiara Celine de Moura;Md Asif Iqbal;Morteza Kamalian;Lukasz Krzczanowicz;Francesco Da Ros;Ann Margareth Rosa Brusin;Andrea Carena;Wlodek Forysiak;Sergei Turitsyn;Darko Zibar
Publication Year: 2021,Page(s):429 - 438
Cited by: Papers (2)
(2569 Kb)

Digital Mobile Fronthaul Based on Performance Enhanced Multi-Stage Noise-Shaping Delta-Sigma Modulator
Ke Bai;Dongdong Zou;Zixuan Zhang;Zibin Li;Wei Wang;Qi Sui;Zizheng Cao;Fan Li
Publication Year: 2021,Page(s):439 - 447
(3170 Kb)

Redesigned TDM-PON System Architecture Based on Point-to-Point Ethernet Transmission and Software Processing With General-Purpose Hardware
Takamitsu Tochino;Keita Nishimoto;Kota Asaka;Jun-ichi Kani;Jun Terada
Publication Year: 2021,Page(s):448 - 457
(1841 Kb)

Multi-Functional Radar Waveform Generation Based on Optical Frequency-Time Stitching Method
Yamei Zhang;Ce Liu;Yu Zhang;Kunlin Shao;Cong Ma;Lu Li;Lijun Sun;Simin Li;Shilong Pan
Publication Year: 2021,Page(s):458 - 464
(1398 Kb)

Optical Heterodyne Analog Radio-Over-Fiber Link for Millimeter-Wave Wireless Systems
Amol Delmade;Colm Browning;Theo Veroleet;Julien Poette;Arman Farhang;Hamza Hallak Elwan;R David Koilpillai;Guy Aubin;F Lelarge;Abderrahim Ramdane;Deepa Venkitesh;Liam P Barry
Publication Year: 2021,Page(s):465 - 474
(3002 Kb)

Feedforward and Recurrent Neural Network-Based Transfer Learning for Nonlinear Equalization in Short-Reach Optical Links
Zhaopeng Xu;Chuan Bowen Sun;Tonghui Ji;Jonathan H. Manton;William Shieh
Publication Year: 2021,Page(s):475 - 480
(3456 Kb)

Geometric Shaping of 2-D Constellations in the Presence of Laser Phase Noise
Hubert Dzielciol;Gabriele Liga;Eric Sillekens;Polina Bayvel;Domaniç Lavery
Publication Year: 2021,Page(s):481 - 490
(3908 Kb)

Datasets
Optical Performance Monitoring in Mode Division Multiplexed Optical Networks
Waddah S. Saif;Amr M. Ragheb;Tariq A. Alshawi;Saleh A. Alshebeili
Publication Year: 2021,Page(s):491 - 504
(2908 Kb)

Energy-Efficient Implementation of Carrier Phase Recovery for Higher-Order Modulation Formats
Erik Börjeson;Per Larsson-Edefors
Publication Year: 2021,Page(s):505 - 510
(815 Kb)

Ultra-Low-Latency, High-Fidelity Analog-to-Digital-Compression Radio-Over-Fiber (ADX-RoF) for MIMO Fronthaul in 5G and Beyond
Paikun Zhu;Yuki Yoshida;Ken-ichi Kitayama
Publication Year: 2021,Page(s):511 - 519
Cited by: Papers (1)
(2423 Kb)

Analog Coherent Detection for Energy Efficient Intra-Data Center Links at 200 Gbps Per Wavelength
Takako Hirokawa;Sergio Pinna;Navid Hosseinzadeh;Aaron Maharry;Hector Andrade;Junqian Liu;Thomas Meissner;Stephen Misak;Ghazal Movaghar;Luis A. Valenzuela;Yujie Xia;Shireesh Bhat;Fabrizio Gambini;Jonathan Klamkin;Adel A. M. Saleh;Larry Coldren;James F. Buckwalter;Clint L. Schow
Publication Year: 2021,Page(s):520 - 531
(2292 Kb)

A Complete Si Photonics Platform Embedding Ultra-Low Loss Waveguides for O- and C-Band
Quentin Wilmart;Stéphane Brisson;Jean-Michel Hartmann;André Myko;Karen Ribaud;Camille Petit-Etienne;Laurene Youssef;Daivid Fowler;Benoit Charbonnier;Corrado Sciancalepore;Erwine Pargon;Stéphane Bernabé;Bertrand Szelag
Publication Year: 2021,Page(s):532 - 538
(3084 Kb)

Quasi-Static Mode Behavior of Multiple Transverse-Mode VCSELs Under High-Speed Direct Modulation
Ji-Hyun Park;Su-Yeon Kim;Sung-Han Kim;Shinwook Yu;Sang-Bae Kim
Publication Year: 2021,Page(s):539 - 546
(3637 Kb)

Multi-Channel Single-Mode Polymer Waveguide Fabricated Using the Mosquito Method
Sho Yakabe;Hitomi Matsui;Yui Kobayashi;Yuki Saito;Ken Manabe;Takaaki Ishigure
Publication Year: 2021,Page(s):547 - 556
(4076 Kb)

Fiber Grating Couplers for Optical Access via the Chip Backside
Daivid Fowler;Quentin Wilmart;Stéphanie Garcia;Ségolène Olivier;Bertrand Szelag
Publication Year: 2021,Page(s):557 - 561
(2280 Kb)

High Sensing Properties of Magnetic Plasmon Resonance by Strong Coupling in Three-Dimensional Metamaterials
Jing Chen;Chun Yang;Ping Gu;Yihan Kuang;Chaojun Tang;Siyu Chen;Zhengqi Liu
Publication Year: 2021,Page(s):562 - 565
(1024 Kb)

Rapid Simulation of Scattering Parameters for Coupled Waveguides With Arbitrary Geometries
Easton Potokar;R. Scott Collings;Alec M. Hammond;Ryan M. Camacho
Publication Year: 2021,Page(s):566 - 573
(1194 Kb)

Mamyshev Oscillator With a Widely Tunable Repetition Rate
Bernard Piechal;Jan Szczepanek;Tomasz M. Kardaś;Yuriy Stepanenko
Publication Year: 2021,Page(s):574 - 581
(7006 Kb)

Numerical Investigation of All-Optical Manipulation for Polarization-Multiplexed Cavity Solitons
Jianxing Pan;Zhuo Cheng;Tianye Huang;Ming Zhu;Zhichao Wu;Perry Ping Shum
Publication Year: 2021,Page(s):582 - 591
(6142 Kb)

SBS Gain Suppression in a Passive Single-Mode Optical Fiber by the Multi-Mode Acoustic Waveguide Design
Sergey V. Tsvetkov;Maxim M. Khudyakov;Alexey S. Lobanov;Denis S. Lipatov;Mikhail M. Bubnov;Alexey N. Guryanov;Valery Temyanko;Mikhail E. Likhachev
Publication Year: 2021,Page(s):592 - 599
(1228 Kb)

Quantifying the Coupling and Degeneracy of OAM Modes in High-Index-Contrast Ring Core Fiber
Mai Banawan;Lixian Wang;Sophie LaRochelle;Leslie A. Rusch
Publication Year: 2021,Page(s):600 - 611
(3522 Kb)

Distributed Analysis on the Spatial Mode Structure in a PANDA-Type Few-Mode Fiber By Brillouin Dynamic Gratings
Yong Hyun Kim;Kwang Yong Song
Publication Year: 2021,Page(s):612 - 619
(3477 Kb)

Single-Polarization Single-Mode Photonic Crystal Fibers With Uniformly Sized Air Holes
Dunke Lu;Xiaohui Fang;Xiaohang Li;Zhiwei Li
Publication Year: 2021,Page(s):620 - 626
(1754 Kb)

High-Accuracy Optical Fiber Transfer Delay Measurement Using Fiber-Optic Microwave Interferometry
Shupeng Li;Ting Qing;Jianbin Fu;Xiangchuan Wang;Shilong Pan
Publication Year: 2021,Page(s):627 - 632
(1736 Kb)

Numerical Analysis of 3.92 μm Dual-Wavelength Pumped Heavily-Holmium-Doped Fluoroindate Fiber Lasers
Feng Zhou;Jianfeng Li;Hongyu Luo;Francois Quéllette;Yong Liu
Publication Year: 2021,Page(s):633 - 645
(5747 Kb)

Modeling and Design of a Semi-Integrated QEPAS Sensor
Martino De Carlo;Giansergio Menduni;Angelo Sampaolo;Francesco De Leonardis;Vincenzo Spagnolo;Vittorio M. N. Passaro
Publication Year: 2021,Page(s):646 - 653
(2507 Kb)

High-Performance Raman Distributed Temperature Sensing Powered by Deep Learning
Zhongshu Zhang;Hao Wu;Can Zhao;Ming Tang
Publication Year: 2021,Page(s):654 - 659
(4121 Kb)

Double Phase Matching in MZI With Antiresonant Effect for Optical Fiber Sensor Application
Guomeng Zuo;Wei Li;Zhao Yang;Shiyu Li;Ruiling Qi;Yuhao Huang;Li Xia
Publication Year: 2021,Page(s):660 - 666
(3363 Kb)

On-Demand Fabrication of Optical Microfiber Couplers With Precisely Controlled Dispersion Turning Points: Towards Sensing Application in Liquids
Youlian Wei;Wenchao Zhou;Yue Wang;Kaiwei Li;Yihui Wu
Publication Year: 2021,Page(s):667 - 673
(3452 Kb)

[Theoretical and Experimental Analysis of the Directional RI Sensing Property of Tilted Fiber Grating](#)
Yuezhen Sun;Tean Lu;Yarien Moreno;Liangye Li;Hushan Wang;Kaiming Zhou;Qizhen Sun;Deming Liu;Zhijun Yan;Lin Zhang
Publication Year: 2021,Page(s):674 - 681
(3523 Kb)

[Refractive Index Sensing Utilizing Tunable Polarization Conversion Efficiency With Dielectric Metasurface](#)
Yong Liang;Qilong Tan;Wen Zhou;Xia Zhou;Ziang Wang;Guiyao Zhou;Xuguang Huang
Publication Year: 2021,Page(s):682 - 687
(1461 Kb)

[TechRxiv: Share Your Preprint Research with the World!](#)
Publication Year: 2021,Page(s):688 - 688
(379 Kb)

[Expand Your Network, Get Rewarded](#)
Publication Year: 2021,Page(s):689 - 689
(986 Kb)

[Information For Authors](#)
Publication Year: 2021,Page(s):C3 - C3
(44 Kb)

[Blank page]
Publication Year: 2021,Page(s):C4 - C4
(4 Kb)

February 1

[Front cover]
Publication Year: 2021,Page(s):C1 - C1
(96 Kb)

[Journal of Lightwave Technology](#)
Publication Year: 2021,Page(s):C2 - C2
(83 Kb)

[Table of Contents](#)
Publication Year: 2021,Page(s):688 - 689
(51 Kb)

[Guest Editorial](#)
R. Doverspike;D. Kuchta;W. Shieh;D. Plant;S. Matsuo;J. S. Wey
Publication Year: 2021,Page(s):690 - 692
(796 Kb)

[Recent Trends in Space Laser Communications for Small Satellites and Constellations](#)
Morio Toyoshima
Publication Year: 2021,Page(s):693 - 699
(2316 Kb)

[A Tutorial on Integrated Microwave Photonic Spectral Shaping](#)
Okky Daulay;Gaojian Liu;Xin Guo;Maarten Eijkel;David Marpaung
Publication Year: 2021,Page(s):700 - 711
(5026 Kb)

[Spectral Design of Silicon Integrated Bragg Gratings: A Tutorial](#)
Rui Cheng;Lukas Chrostowski
Publication Year: 2021,Page(s):712 - 729
(3375 Kb)

[Coherent Data Center Links](#)
Jose Krause Perin;Anujit Shastri;Joseph M. Kahn
Publication Year: 2021,Page(s):730 - 741
(2477 Kb)

[Design, Acceptance and Capacity of Subsea Open Cables](#)
Elizabeth Rivera Hartling;Alexei Pilipetskii;Darwin Evans;Eduardo Mateo;Massimiliano Salsi;Pascal Pecci;Priyanth Mehta
Publication Year: 2021,Page(s):742 - 756
(2233 Kb)

[High Capacity Transmission in a Coupled-Core Three-Core Multi-Core Fiber](#)
Georg Rademacher;Ruben S. Luis;Benjamin J. Puttnam;Roland Ryf;Sjoerd van der Heide;Tobias A. Eriksson;Nicolas K. Fontaine;Haoshuo Chen;René-Jean Essiambre;Yoshinari Awaji;Hideaki Furukawa;Naoya Wada
Publication Year: 2021,Page(s):757 - 762
(1367 Kb)

[128 GSa/s SiGe DAC Implementation Enabling 1.52 Tb/s Single Carrier Transmission](#)
Fred Buchali;Vahid Aref;Roman Dischler;Mathieu Chagnon;Karsten Schuh;Horst Hettrich;Anna Bielik;Lars Altenhain;Markus Guntermann;Rolf Schmid;Michael Möller
Publication Year: 2021,Page(s):763 - 770
Cited by: [Papers \(2\)](#)
(3249 Kb)

[>100-GHz Bandwidth Directly-Modulated Lasers and Adaptive Entropy Loading for Energy-Efficient >300-Gbps/λ IM/DD Systems](#)
Nikolaos-Panteleimon Diamantopoulos;Hiroshi Yamazaki;Suguru Yamaoka;Munehiko Nagatani;Hidetaka Nishi;Hiromasa Tanobe;Ryo Nakao;Takuro Fujii;Koji Takeda;Takaaki Kakitsuka;Hitoshi Wakita;Minoru Ida;Hideyuki Nosaka;Fumio Koyama;Yutaka Miyamoto;Shinji Matsuo
Publication Year: 2021,Page(s):771 - 778
(1959 Kb)

[SiPhotonics/GaAs 28-GHz Transceiver With Reflective EAM for Laser-Less mmWave-Over-Fiber](#)
Laurens Bogaert;Joris Van Kerrebrouck;Haolin Li;Igor Lima de Paula;Kasper Van Gasse;Chia-Yi Wu;Peter Ossieur;Sam Lemey;Hendrik Rogier;Piet Demeester;Gunther Roelkens;Johan Bauwelinck;Guy Torfs
Publication Year: 2021,Page(s):779 - 786
(3529 Kb)

[Wide-Band Inline-Amplified WDM Transmission Using PPLN-Based Optical Parametric Amplifier](#)
Takayuki Kobayashi;Shimpei Shimizu;Masanori Nakamura;Takeshi Umeki;Takushi Kazama;Ryoichi Kasahara;Fukutaro Hamaoka;Munehiko Nagatani;Hiroshi Yamazaki;Hideyuki Nosaka;Yutaka Miyamoto
Publication Year: 2021,Page(s):787 - 794
(1538 Kb)

[Ultra-Broadband Bismuth-Doped Fiber Amplifier Covering a 115-nm Bandwidth in the O and E Bands](#)
Yu Wang;Naresh K. Thipparapu;David J. Richardson;Jayanta K. Sahu
Publication Year: 2021,Page(s):795 - 800
(2368 Kb)

[100Gbps DMT ASIC for Hybrid LTE-5G Mobile Fronthaul Networks](#)
Son Thai Le;Tomislav Drenski;Andrew Hills;Malcolm King;Kwangwoong Kim;Yasuhiro Matsui;Theodore Sizer
Publication Year: 2021,Page(s):801 - 812
(2632 Kb)

Transmission of 61 C-Band Channels Over Record Distance of Hollow-Core-Fiber With L-Band Interferers
Antonino Nespola;Stefano Straullu;Thomas D. Bradley;Kerriane Harrington;Hesham Sakr;Gregory T. Jasion;Eric Numkam Fokoua;Yongmin Jung;Yong Chen;John R. Hayes;Fabrizio Forghieri;David J. Richardson;Francesco Poletti;Gabriella Bosco;Pierluigi Poggiolini
Publication Year: 2021,Page(s):813 - 820
(3067 Kb)

Automatic Mapping Between Real Hardware Composition and ROADM Model for Agile Node Updates
Kiyo Ishii;Sugang Xu;Noboru Yoshikane;Atsuko Takefusa;Takehiro Tsuritani;Yoshinari Awaji;Shu Namiki
Publication Year: 2021,Page(s):821 - 832
(8856 Kb)

Optical Broadcasting Employing Incoherent and Low-Coherence Spatial Modes for Bi-Directional Optical Wireless Communications
Yetian Huang;Haoshuo Chen;Nicolas K. Fontaine;Yuanhang Zhang;Hanzi Huang;Mikael Mazur;Juan Carlos Alvarado-Zacarias;Roland Ryf;David T. Neilson;Guifang Li;Rodrigo Amezcua-Correa;Joel Carpenter;Yingxiang Song;Min Wang
Publication Year: 2021,Page(s):833 - 838
(4634 Kb)

Single-Pixel Imaging Using Multimode Fiber and Silicon Photonic Phased Array
Taichiro Fukui;Yusuke Kohnno;Rui Tang;Yoshiaki Nakano;Takuo Tanemura
Publication Year: 2021,Page(s):839 - 844
(1642 Kb)

200-Gb/s Direct Modulation of a 50-GHz Class Laser With Advanced Digital Modulations
Di Che;Yasuhiro Matsui;Richard Schatz;Roberto Rodes;Ferdous Khan;Martin Kwakernaak;Tsurugi Sudo
Publication Year: 2021,Page(s):845 - 852
(1160 Kb)

TechRxiv: Share Your Preprint Research with the World!
Publication Year: 2021,Page(s):853 - 853
(380 Kb)

Expand Your Network, Get Rewarded
Publication Year: 2021,Page(s):854 - 854
(986 Kb)

Information For Authors
Publication Year: 2021,Page(s):C3 - C3
(44 Kb)

[Blank page]
Publication Year: 2021,Page(s):C4 - C4
(4 Kb)

February 15

[Front cover]
Publication Year: 2021,Page(s):C1 - C1
(96 Kb)

Journal of Lightwave Technology
Publication Year: 2021,Page(s):C2 - C2
(83 Kb)

Table of contents
Publication Year: 2021,Page(s):853 - 855
(61 Kb)

Editorial Selected Papers From OFC 2020

Gabriella Bosco
Publication Year: 2021,Page(s):856 - 856
(25 Kb)

Silicon Photonics for 100Gbaud

Jiaying Zhou;Jian Wang;Likai Zhu;Qun Zhang
Publication Year: 2021,Page(s):857 - 867
(4616 Kb)

Single-Mode VCSEL Transmission for Short Reach Communications

Ming-Jun Li;Kangmei Li;Xin Chen;Snigdharaj K. Mishra;Adrian A. Juarez;Jason E. Hurlley;Jeffery S. Stone;Chia-Hsuan Wang;Hao-Tien Cheng;Chao-Hsin Wu;Hao-Chung Kuo;Cheng-Ting Tsai;Gong-Ru Lin
Publication Year: 2021,Page(s):868 - 880
Cited by: Papers (1)
(4277 Kb)

Radio-Over-Fiber Technology: Present and Future

Christina Lim;Ampalavanapillai Nirmalathas
Publication Year: 2021,Page(s):881 - 888
(2566 Kb)

Analysis of Unidirectional Coupling in Topological Valley Photonic Crystal Waveguides

Wen-Sheng Ruan;Xin-Tao He;Fu-Li Zhao;Jian-Wen Dong
Publication Year: 2021,Page(s):889 - 895
(1520 Kb)

Recent Progress of Wavelength Selective Switch

Yiran Ma;Luke Stewart;Julian Armstrong;Ian G. Clarke;Glenn Baxter
Publication Year: 2021,Page(s):896 - 903
(4126 Kb)

Thermo-Optic Beam Scanner Employing Silicon Photonic Crystal Slow-Light Waveguides

Takemasa Tamanuki;Hiroyuki Ito;Toshihiko Baba
Publication Year: 2021,Page(s):904 - 911
(4467 Kb)

Glass Substrate With Integrated Waveguides for Surface Mount Photonic Packaging

Lars Brusberg;Aramais R. Zakharian;Şükrü Ekin Kocabaş;Lucas W. Yeary;Jason R. Grenier;Chad C. Terwilliger;Robert A. Bellman
Publication Year: 2021,Page(s):912 - 919
(3884 Kb)

Robust Imaging-Free Object Recognition Through Anderson Localizing Optical Fiber

Xiaowen Hu;Jian Zhao;Jose E. Antonio-Lopez;Shengli Fan;Rodrigo Amezcua Correa;Axel Schülzgen
Publication Year: 2021,Page(s):920 - 926
(1328 Kb)

Nonlinear Impairment Scaling in Multi-Mode Fibers for Mode-Division Multiplexing

Peter M. Krummrich;Marius Brehler;Georg Rademacher;Klaus Petermann
Publication Year: 2021,Page(s):927 - 932
(1492 Kb)

High Spectral Efficiency Real-Time 500-Gb/s/carrier Long-Haul Transmission Over Field-Installed Fibers

Hideki Maeda;Kohei Saito;Hiroki Kawahara;Takeshi Seki;Takeo Sasai;Fukutaro Hamaoka
Publication Year: 2021,Page(s):933 - 939
(1259 Kb)

Selectively Grown III-V Lasers for Integrated Si-Photonics

Yu Han;Ying Xue;Zhao Yan;Kei May Lau
Publication Year: 2021,Page(s):940 - 948
(2032 Kb)

Model-Based Machine Learning for Joint Digital Backpropagation and PMD Compensation

Rick M. Büttler;Christian Häger;Henry D. Pfister;Gabriele Liga;Alex Alvarado
Publication Year: 2021,Page(s):949 - 959
(1779 Kb)

Pilot Tone Power Limits of Brillouin Amplified Carrier Recovery for Optical Communications

Mark Pelusi;Takashi Inoue;Shu Namiki
Publication Year: 2021,Page(s):960 - 976
(5589 Kb)

Design of Microwave Photonic Subsystems Using Brillouin Scattering

Reena Parihar;Rajveer Dhawan;Suraj Goel;B. Om Subham;Amol Choudhary
Publication Year: 2021,Page(s):977 - 991
(5270 Kb)

Effects of Reflow Soldering Process Conditions on the Reliability of Specialty Optical Fibers

Mei Wen;Ralph J. Lago;Jie Li
Publication Year: 2021,Page(s):992 - 998
(2767 Kb)

Towards the Integration of InP Photonics With Silicon Electronics: Design and Technology Challenges

Weiming Yao;Xiao Liu;M. K. Matters-Kammerer;Arezou Meighan;Marc Spiegelberg;Marija Trajkovic;Jos J. G. M. van der Tol;Michael J. Wale;Xi Zhang;Kevin Williams
Publication Year: 2021,Page(s):999 - 1009
(3114 Kb)

Deep Neural Networks for Inverse Design of Nanophotonic Devices

Keisuke Kojima;Mohammad H. Tahersima;Toshiaki Koike-Akino;Devesh K. Jha;Yingheng Tang;Ye Wang;Kieran Parsons
Publication Year: 2021,Page(s):1010 - 1019
(2885 Kb)

Digital Back Propagation via Sub-Band Processing in Spatial Multiplexing Systems

Filipe M. Ferreira;Eric Sillekens;Boris Karanov;Robert Killey
Publication Year: 2021,Page(s):1020 - 1026
(902 Kb)

0.61 Pb/s S, C, and L-Band Transmission in a 125µm Diameter 4-Core Fiber Using a Single Wideband Comb Source

Benjamin J. Puttnam;Ruben S. Luís;Georg Rademacher;Lidia Galdino;Domaniç Lavery;Tobias A. Eriksson;Yoshinari Awaji;Hideaki Furukawa;Polina Bayvel;Naoya Wada
Publication Year: 2021,Page(s):1027 - 1032
Cited by: Papers (4)
(1218 Kb)

24 [1×12] Wavelength Selective Switches Integrated on a Single 4k LCoS Device

Haining Yang;Peter Wilkinson;Brian Robertson;Sam Giltrap;Oliver Snowdon;Harry Prudden;Daping Chu
Publication Year: 2021,Page(s):1033 - 1039
Cited by: Papers (1)
(2623 Kb)

FSO Receiver With High Optical Alignment Robustness Using High-Speed 2D-PDA and Space Diversity Technique

Toshimasa Umezawa;Yuki Yoshida;Atsushi Kanno;Atsushi Matsumoto;Kouichi Akahane;Naokatsu Yamamoto;Tetsuya Kawanishi
Publication Year: 2021,Page(s):1040 - 1047
(2555 Kb)

Highly Spectral Efficient C + L-Band Transmission Over a 38-Core-3-Mode Fiber

Georg Rademacher;Benjamin J. Puttnam;Ruben S. Luís;Jun Sakaguchi;Werner Klaus;Tobias A. Eriksson;Yoshinari Awaji;Tetsuya Hayashi;Takeji Nagashima;Tetsuya Nakanishi;Toshiki Taru;Taketoshi Takahata;Tetsuya Kobayashi;Hideaki Furukawa;Naoya Wada
Publication Year: 2021,Page(s):1048 - 1055
Cited by: Papers (1)
(3532 Kb)

10 Tbit/s QAM Quantum Noise Stream Cipher Coherent Transmission Over 160 Km

Masato Yoshida;Takashi Kan;Keisuke Kasai;Toshihiko Hirooka;Masataka Nakazawa
Publication Year: 2021,Page(s):1056 - 1063
(1937 Kb)

Nonlinear Differential Coding for Spectral Shaping of PAM Signal in High-Baudrate Short-Reach Optical Transmission

Shuto Yamamoto;Hiroki Taniguchi;Masanori Nakamura;Yoshiaki Kisaka
Publication Year: 2021,Page(s):1064 - 1071
(1528 Kb)

FPGA Implementation of Rate-Adaptable Prefix-Free Code Distribution Matching for Probabilistic Constellation Shaping

Qinyang Yu;Steve Corteselli;Junho Cho
Publication Year: 2021,Page(s):1072 - 1080
(1324 Kb)

A 5G Fiber Wireless 4Gb/s WDM Fronthaul for Flexible 360° Coverage in V-Band massive MIMO Small Cells

Eugenio Ruggeri;Apostolos Tsakyridis;Christos Vagionas;George Kalfas;Ruud M. Oldenbeuving;Paul W. L. van Dijk;Chris G.H. Roeloffzen;Yigal Leiba;Nikos Pleros;Amalia Miliou
Publication Year: 2021,Page(s):1081 - 1088
(2867 Kb)

High Output Power SOA Assisted Extended Reach EADFB Laser (AXEL) TOSA for 400-Gbit/s 40-km Fiber-Amplifier-Less Transmission

Shigeru Kanazawa;Takahiko Shindo;Mingchen Chen;Naoki Fujiwara;Masahiro Nada;Toshihide Yoshimatsu;Atsushi Kanda;Yasuhiko Nakanishi;Fumito Nakajima;Kimikazu Sano;Yoza Ishikawa;Kazuyo Mizuno;Hideaki Matsuzaki
Publication Year: 2021,Page(s):1089 - 1095
(3137 Kb)

Strictly Non-Blocking 8 × 8 Silicon Photonics Switch Operating in the O-Band

Keijiro Suzuki;Ryotaro Konoike;Guangwei Cong;Koji Yamada;Shu Namiki;Hitoshi Kawashima;Kazuhiro Ikeda
Publication Year: 2021,Page(s):1096 - 1101
(1892 Kb)

Port-Alternated Switch-and-Select Optical Switches

Ryotaro Konoike;Keijiro Suzuki;Hitoshi Kawashima;Kazuhiro Ikeda
Publication Year: 2021,Page(s):1102 - 1107
(1607 Kb)

High-Speed Modulator With Integrated Termination Resistor Based on Hybrid Silicon and Lithium Niobate Platform

Shihao Sun;Mingbo He;Mengyue Xu;Xian Zhang;Ziliang Ruan;Lidan Zhou;Lin Liu;Liu Liu;Siyuan Yu;Xinlun Cai
Publication Year: 2021,Page(s):1108 - 1115
(3735 Kb)

A Bi-Directional Multi-Band, Multi-Beam mm-Wave Beamformer for 5G Fiber Wireless Access Networks

Min-Yu Huang;You-Wei Chen;Run-Kai Shiu;Hua Wang;Gee-Kung Chang
Publication Year: 2021,Page(s):1116 - 1124
(2230 Kb)

Low Power All-Digital Radio-Over-Fiber Transmission for 28-GHz Band Using Parallel Electro-Absorption Modulators

Jakob Declercq;Haolin Li;Joris Van Kerrebroeck;Michiel Verplaetse;Hannes Ramon;Laurens Bogaert;Joris Lambrecht;Chia-Yi Wu;Laurens Breyne;Olivier Caytan;Sam Lemey;Johan Bauwelinck;Xin Yin;Peter Ossieur;Piet Demeester;Guy Torfs
Publication Year: 2021,Page(s):1125 - 1131
(2396 Kb)

Extension of Transmitter Bandwidth Using Optical Time-Interleaving Modulator and Digital Spectral Weaver

Hiroshi Yamazaki;Masanori Nakamura;Takashi Goh;Toshikazu Hashimoto;Yutaka Miyamoto
Publication Year: 2021,Page(s):1132 - 1137
(2523 Kb)

High-Speed DD Transmission Using a Silicon Receiver Co-Integrated With a 28-nm CMOS Gain-Tunable Fully-Differential TIA

Yang Hong;Ke Li;Cosimo Lacava;Shenghao Liu;David J. Thomson;Fanfan Meng;Xiaoke Ruan;Fan Zhang;Graham T. Reed;Periklis Petropoulos
Publication Year: 2021,Page(s):1138 - 1147
(3846 Kb)

High-Speed Optical Digital-to-Analog Converter Operation of Compact Two-Segment All-Silicon Mach-Zehnder Modulator

Yohei Sobu;Guoxiu Huang;Shinsuke Tanaka;Yu Tanaka;Yuichi Akiyama;Takeshi Hoshida
Publication Year: 2021,Page(s):1148 - 1154
Cited by: Papers (1)
(2944 Kb)

1.6 Tbps Silicon Photonics Integrated Circuit and 800 Gbps Photonic Engine for Switch Co-Packaging Demonstration

Saeed Fatholouloumi;David Hui;Susheel Jadhav;Jian Chen;Kimchau Nguyen;M.N. Sakib;Z. Li;Hari Mahalingam;Siamak Amiralizadeh;Nelson N. Tang;Harinadh Potluri;Mohammad Montazeri;Harel Frish;Reece A. Defrees;Christopher Seibert;Alexander Krichevsky;Jonathan K. Doylend;John Heck;R. Venables;A. Dahal;A. Awujoola;A. Vardapetyan;Guneet Kaur;Min Cen;Vishnu Kulkarni;Syed S. Islam;R. L. Spreitzer;S. Garag;A. C. Alduino;RK Chiou;L. Kamyab;S. Gupta;B. Xie;R. S. Appleton;S. Hollingsworth;S. McCargar;Y. Akulova;K. M. Brown;R. Jones;Daniel Zhu;Thomas Liljeberg;Ling Liao
Publication Year: 2021,Page(s):1155 - 1161
(4110 Kb)

Experimental Characterization of Raman Amplifier Optimization Through Inverse System Design

Uiara C. de Moura;Francesco Da Ros;A. Margareth Rosa Brusin;Andrea Carena;Darko Zibar
Publication Year: 2021,Page(s):1162 - 1170
(2588 Kb)

CMOS DAC Supported 1.1 Tb/s/λ DWDM Transmission at 9.8 bit/s/Hz Over DCI Distances

Fred Buchali;Vincent Lauinger;Mathieu Chagnon;Karsten Schuh;Vahid Aref
Publication Year: 2021,Page(s):1171 - 1178
Cited by: Papers (1)
(1997 Kb)

Design of High-Density Cable Parameters for Controlling Spatial-Mode Dispersion of Randomly Coupled Multi-Core Fibers

Yusuke Yamada;Tajji Sakamoto;Masaki Wada;Saki Nozoe;Yuto Sagae;Yoko Yamashita;Hisashi Izumita;Kazuhide Nakajima;Hiroaki Tanioka
Publication Year: 2021,Page(s):1179 - 1185
(1210 Kb)

Characteristics of Randomly Coupled 12-core Erbium-Doped Fiber Amplifier

Tajji Sakamoto;Masaki Wada;Shinichi Aozasa;Ryota Imada;Takashi Yamamoto;Kazuhide Nakajima
Publication Year: 2021,Page(s):1186 - 1193
(1145 Kb)

Optical Field Reconstruction of Real-Valued Modulation Using a Single-Ended Photoreceiver With Half-Symbol-Rate Bandwidth

Qian Hu;Robert Borkowski;Karsten Schuh;Henning Bülow
Publication Year: 2021,Page(s):1194 - 1203
(1452 Kb)

Vibration Sensing for Deployed Metropolitan Fiber Infrastructure

Ilaria Di Luch;Pierpaolo Boffi;Maddalena Ferrario;Giuseppe Rizzelli;Roberto Gaudino;Mario Martinelli
Publication Year: 2021,Page(s):1204 - 1211
(2984 Kb)

Silicon Photonic Flex-LIONS for Reconfigurable Multi-GPU Systems

Marjan Fariborz;Xian Xiao;Pouya Fotouhi;Roberto Proietti;S. J. Ben Yoo
Publication Year: 2021,Page(s):1212 - 1220
(4657 Kb)

2ch × 53-Gbps Optical Transmission Performance of a Low-Power PAM4 Transmitter Front-End Flip-Chip-Bonded 1.3-μm LD Array-on-Si

Toshiki Kishi;Munehiko Nagatani;Shigeru Kanazawa;Kota Shikama;Takuro Fujii;Hidetaka Nishi;Hiroshi Yamazaki;Norio Sato;Hideyuki Nosaka;Shinji Matsuo
Publication Year: 2021,Page(s):1221 - 1230
(4009 Kb)

Real-Time Demonstration of Homodyne Coherent Bidirectional Transmission for Next-Generation Data Center Interconnects

Tao Gui;Xuefeng Wang;Ming Tang;Yi Yu;Yanzhao Lu;Liangchuan Li
Publication Year: 2021,Page(s):1231 - 1238
(2499 Kb)

Expand Your Network, Get Rewarded

Publication Year: 2021,Page(s):1239 - 1239
(986 Kb)

TechRxiv: Share Your Preprint Research with the World!

Publication Year: 2021,Page(s):1240 - 1240
(379 Kb)

Information For Authors

Publication Year: 2021,Page(s):C3 - C3
(44 Kb)

[Blank page]

Publication Year: 2021,Page(s):C4 - C4
(4 Kb)

IEEE TRANSACTIONS ON *MULTIMEDIA*

A PUBLICATION OF
THE IEEE CIRCUITS AND SYSTEMS SOCIETY
THE IEEE SIGNAL PROCESSING SOCIETY
THE IEEE COMMUNICATIONS SOCIETY
THE IEEE COMPUTER SOCIETY



<http://www.signalprocessingsociety.org/tmm/>

2021

End-to-End Audiovisual Speech Recognition System With Multitask Learning

Fei Tao;Carlos Busso

Publication Year: 2021,Page(s):1 - 11

Cited by: Papers (1)

(1759 Kb)

Soft Video Multicasting Using Adaptive Compressed Sensing

Hadi Hadizadeh;Ivan V. Bajić

Publication Year: 2021,Page(s):12 - 25

(1809 Kb)

BVI-SynTex: A Synthetic Video Texture Dataset for Video Compression and Quality Assessment

Angeliki V. Katsenou;Goce Dimitrov;Di Ma;David R. Bull

Publication Year: 2021,Page(s):26 - 38

Cited by: Papers (1)

(4804 Kb)

Fast Non-Local Adaptive In-Loop Filter Optimization on GPU

Chuanmin Jia;Falei Luo;Xinfeng Zhang;Shiqi Wang;Shanshe Wang;Siwei Ma

Publication Year: 2021,Page(s):39 - 51

(6026 Kb)

High-Fidelity Reversible Image Watermarking Based on Effective Prediction Error-Pairs Modification

Wenguang He;Zhanchuan Cai;Yaomin Wang

Publication Year: 2021,Page(s):52 - 63

(4965 Kb)

A Multi-Stream Graph Convolutional Networks-Hidden Conditional Random Field Model for Skeleton-Based Action Recognition

Kai Liu;Lei Gao;Naimul Mefraz Khan;Lin Qi;Ling Guan

Publication Year: 2021,Page(s):64 - 76

(2286 Kb)

Constant Size Point Cloud Clustering: A Compact, Non-Overlapping Solution

André F. R. Guarda;Nuno M. M. Rodrigues;Fernando Pereira

Publication Year: 2021,Page(s):77 - 91

(6313 Kb)

Integrating Part of Speech Guidance for Image Captioning

Ji Zhang;Kuizhi Mei;Yu Zheng;Jianping Fan

Publication Year: 2021,Page(s):92 - 104

(3975 Kb)

A Bottom-Up and Top-Down Integration Framework for Online Object Tracking

Meihui Li;Lingbing Peng;Tianfu Wu;Zhenming Peng

Publication Year: 2021,Page(s):105 - 119

(5433 Kb)

Siamese Tracking Network With Informative Enhanced Loss

Shengjing Tian;Xiuping Liu;Meng Liu;Shuhua Li;Baocai Yin

Publication Year: 2021,Page(s):120 - 132

Cited by: Papers (2)

(2681 Kb)

Pose-Normalized and Appearance-Preserved Street-to-Shop Clothing Image Generation and Feature Learning

Huijing Zhan;Chenyu Yi;Boxin Shi;Jie Lin;Ling-Yu Duan;Alex C. Kot

Publication Year: 2021,Page(s):133 - 144

(4333 Kb)

Adversarial Disentanglement Spectrum Variations and Cross-Modality Attention Networks for NIR-VIS Face Recognition

Weipeng Hu;Haifeng Hu

Publication Year: 2021,Page(s):145 - 160

Cited by: Papers (1)

(3241 Kb)

Pose-Guided Tracking-by-Detection: Robust Multi-Person Pose Tracking

Qian Bao;Wu Liu;Yuhao Cheng;Boyan Zhou;Tao Mei

Publication Year: 2021,Page(s):161 - 175

(5518 Kb)

Learning Representations for High-Dynamic-Range Image Color Transfer in a Self-Supervised Way

Yifei Huang;Sheng Qiu;Changbo Wang;Chenhui Li

Publication Year: 2021,Page(s):176 - 188

(6098 Kb)

Enhancing Underexposed Photos Using Perceptually Bidirectional Similarity
Qing Zhang;Yongwei Nie;Lei Zhu;Chunxia Xiao;Wei-Shi Zheng
Publication Year: 2021,Page(s):189 - 202
Cited by: Papers (1)
(10259 Kb)

Spatial-Temporal Cascade Autoencoder for Video Anomaly Detection in Crowded Scenes
Nanjun Li;Faliang Chang;Chunsheng Liu
Publication Year: 2021,Page(s):203 - 215
Cited by: Papers (1)
(4307 Kb)

Learning Adaptive Neighborhood Graph on Grassmann Manifolds for Video/Image-Set Subspace Clustering
Boyue Wang;Yongli Hu;Junbin Gao;Yanfeng Sun;Fujiao Ju;Baocai Yin
Publication Year: 2021,Page(s):216 - 227
Cited by: Papers (1)
(1972 Kb)

Graph Embedding Multi-Kernel Metric Learning for Image Set Classification With Grassmannian Manifold-Valued Features
Rui Wang;Xiao-Jun Wu;Josef Kittler
Publication Year: 2021,Page(s):228 - 242
(2177 Kb)

Interactive Video Retrieval in the Age of Deep Learning – Detailed Evaluation of VBS 2019
Luca Rossetto;Ralph Gasser;Jakub Lokoč;Werner Bailer;Klaus Schoeffmann;Bernd Muenzer;Tomáš Souček;Phuong Anh Nguyen;Paolo Bolettieri;Andreas Leibetseder;Stefanos Vrochidis
Publication Year: 2021,Page(s):243 - 256
Cited by: Papers (1)
(3343 Kb)

Viewpoint Recommendation Based on Object-Oriented 3D Scene Reconstruction
Ke Li;Yuxia Wu;Yao Xue;Xueming Qian
Publication Year: 2021,Page(s):257 - 267
Cited by: Papers (1)
(6630 Kb)

Hierarchical Reasoning Network for Pedestrian Attribute Recognition
Haoran An;Hai-Miao Hu;Yuanfang Guo;Qianli Zhou;Bo Li
Publication Year: 2021,Page(s):268 - 280
(4902 Kb)

Person Re-Identification in Aerial Imagery
Shizhou Zhang;Qi Zhang;Yifei Yang;Xing Wei;Peng Wang;Bingliang Jiao;Yanning Zhang
Publication Year: 2021,Page(s):281 - 291
(5937 Kb)

Re-Synchronization Using the Hand Preceding Model for Multi-Modal Fusion in Automatic Continuous Cued Speech Recognition
Li Liu;Gang Feng;Denis Beautemps;Xiao-Ping Zhang
Publication Year: 2021,Page(s):292 - 305
(3063 Kb)

Spectrum Characteristics Preserved Visible and Near-Infrared Image Fusion Algorithm
Zhuo Li;Hai-Miao Hu;Wei Zhang;Shiliang Pu;Bo Li
Publication Year: 2021,Page(s):306 - 319
Cited by: Papers (1)
(7585 Kb)

Quality Index for View Synthesis by Measuring Instance Degradation and Global Appearance
Leida Li;Yu Zhou;Jinjian Wu;Fu Li;Guangming Shi
Publication Year: 2021,Page(s):320 - 332
(5541 Kb)

A Physiology-Based QoE Comparison of Interactive Augmented Reality, Virtual Reality and Tablet-Based Applications
Conor Keighrey;Ronan Flynn;Siobhan Murray;Niall Murray
Publication Year: 2021,Page(s):333 - 341
Cited by: Papers (7)
(1879 Kb)

Fast Nearest Subspace Search via Random Angular Hashing
Yi Xu;Xianglong Liu;Binshuai Wang;Renshuai Tao;Ke Xia;Xianbin Cao
Publication Year: 2021,Page(s):342 - 352
(2201 Kb)

Boosting Temporal Binary Coding for Large-Scale Video Search
Yan Wu;Xianglong Liu;Haotong Qin;Ke Xia;Sheng Hu;Yuqing Ma;Meng Wang
Publication Year: 2021,Page(s):353 - 364
(1497 Kb)

Dress With Style: Learning Style From Joint Deep Embedding of Clothing Styles and Body Shapes
Shintami Chusnul Hidayati;Ting Wei Goh;Ji-Sheng Gary Chan;Cheng-Chun Hsu;John See;Lai-Kuan Wong;Kai-Lung Hua;Yu Tsao;Wen-Huang Cheng
Publication Year: 2021,Page(s):365 - 377
Cited by: Papers (2)
(6201 Kb)

LAST: Location-Appearance-Semantic-Temporal Clustering Based POI Summarization
Xueming Qian;Yuxia Wu;Mingdi Li;Yayun Ren;Shuhui Jiang;Zhetao Li
Publication Year: 2021,Page(s):378 - 390
Cited by: Papers (1)
(3559 Kb)

SPA-GAN: Spatial Attention GAN for Image-to-Image Translation
Hajar Emami;Majid Moradi Aliabadi;Ming Dong;Ratna Babu Chinnam
Publication Year: 2021,Page(s):391 - 401
Cited by: Papers (2)
(6341 Kb)

Learning Localized Representations of Point Clouds With Graph-Convolutional Generative Adversarial Networks
Diego Valsesia;Giulia Fracastoro;Enrico Magli
Publication Year: 2021,Page(s):402 - 414
(4192 Kb)

3-D Human Behavior Understanding Using Generalized TS-LSTM Networks
Inwoong Lee;Doyoung Kim;Sanghoon Lee
Publication Year: 2021,Page(s):415 - 428
Cited by: Papers (2)
(3263 Kb)

Recurrent Generative Adversarial Network for Face Completion
Qiang Wang;Huijie Fan;Gan Sun;Weihong Ren;Yandong Tang
Publication Year: 2021,Page(s):429 - 442
Cited by: Papers (1)
(12309 Kb)

Density-Aware Multi-Task Learning for Crowd Counting
Xiaoheng Jiang;Li Zhang;Tianzhu Zhang;Pei Lv;Bing Zhou;Yanwei Pang;Mingliang Xu;Changsheng Xu
Publication Year: 2021,Page(s):443 - 453
(7261 Kb)

OPMP: An Omnidirectional Pyramid Mask Proposal Network for Arbitrary-Shape Scene Text Detection
Sheng Zhang;Yuliang Liu;Lianwen Jin;Zhongrong Wei;Chunhua Shen
Publication Year: 2021,Page(s):454 - 467
Cited by: Papers (1)
(6741 Kb)

Learning Face Image Super-Resolution Through Facial Semantic Attribute Transformation and Self-Attentive Structure Enhancement
Mengyan Li;Zhaoyu Zhang;Jun Yu;Chang Wen Chen
Publication Year: 2021,Page(s):468 - 483
(5802 Kb)

Learning and Fusing Multiple User Interest Representations for Micro-Video and Movie Recommendations
Xusong Chen;Dong Liu;Zhiwei Xiong;Zheng-Jun Zha
Publication Year: 2021,Page(s):484 - 496
(4201 Kb)

DeepDance: Music-to-Dance Motion Choreography With Adversarial Learning
Guofei Sun;Yongkang Wong;Zhiyong Cheng;Mohan S. Kankanhalli;Weidong Geng;Xiangdong Li
Publication Year: 2021,Page(s):497 - 509
(4409 Kb)

Metadata Connector: Exploiting Hashtag and Tag for Cross-OSN Event Search
Yuqi Gao;Jitao Sang;Chengpeng Fu;Zhengjia Wang;Tongwei Ren;Changsheng Xu
Publication Year: 2021,Page(s):510 - 523
(4014 Kb)

A Novel Perspective to Zero-Shot Learning: Towards an Alignment of Manifold Structures via Semantic Feature Expansion
Jingcai Guo;Song Guo
Publication Year: 2021,Page(s):524 - 537
(4540 Kb)

IPTV Channel Zapping Recommendation With Attention Mechanism
Guangyu Li;Lina Qiu;Chenguang Yu;Houwei Cao;Yong Liu;Can Yang
Publication Year: 2021,Page(s):538 - 549
(1688 Kb)

Mask Cross-Modal Hashing Networks
Qiubin Lin;Wenming Cao;Zhiquan He;Zhihai He
Publication Year: 2021,Page(s):550 - 558
(1405 Kb)

Augmented Adversarial Training for Cross-Modal Retrieval
Yiling Wu;Shuhui Wang;Guoli Song;Qingming Huang
Publication Year: 2021,Page(s):559 - 571
(2593 Kb)

Driver Yawning Detection Based on Subtle Facial Action Recognition
Hao Yang;Li Liu;Weidong Min;Xiaosong Yang;Xin Xiong
Publication Year: 2021,Page(s):572 - 583
(4927 Kb)

Learned Resolution Scaling Powered Gaming-as-a-Service at Scale
Hao Chen;Ming Lu;Zhan Ma;Xu Zhang;Yiling Xu;Qiu Shen;Wenjun Zhang
Publication Year: 2021,Page(s):584 - 596
(2812 Kb)

Progressive Unsupervised Person Re-Identification by Tracklet Association With Spatio-Temporal Regularization
Qiaokang Xie;Wengang Zhou;Guo-Jun Qi;Qi Tian;Houqiang Li
Publication Year: 2021,Page(s):597 - 610
(6498 Kb)

Beyond Vision: A Multimodal Recurrent Attention Convolutional Neural Network for Unified Image Aesthetic Prediction Tasks
Xiaodan Zhang;Xinbo Gao;Wen Lu;Lihuo He;Jie Li
Publication Year: 2021,Page(s):611 - 623
(4601 Kb)

BR2Net: Defocus Blur Detection Via a Bidirectional Channel Attention Residual Refining Network
Chang Tang;Xinwang Liu;Shan An;Pichao Wang
Publication Year: 2021,Page(s):624 - 635
Cited by: Papers (1)
(4504 Kb)

A Recursive Reversible Data Hiding in Encrypted Images Method With a Very High Payload
Pauline Puteaux;William Puech
Publication Year: 2021,Page(s):636 - 650
(4791 Kb)

TCLiVi: Transmission Control in Live Video Streaming Based on Deep Reinforcement Learning
Laizhong Cui;Dongyuan Su;Shu Yang;Zhi Wang;Zhong Ming
Publication Year: 2021,Page(s):651 - 663
(2315 Kb)

Utilizing Two-Phase Processing With FBLS for Single Image Deraining
Xiao Lin;Lizhuang Ma;Bin Sheng;Zhi-Jie Wang;Wansheng Chen
Publication Year: 2021,Page(s):664 - 676
(6545 Kb)

Benchmarking Image Retrieval Diversification Techniques for Social Media
Bogdan Ionescu;Maia Rohm;Bogdan Boteanu;Alexandru Lucian Gînscă;Mihai Lupu;Henning Müller
Publication Year: 2021,Page(s):677 - 691
(2092 Kb)

Exploiting Local Degradation Characteristics and Global Statistical Properties for Blind Quality Assessment of Tone-Mapped HDR Images
Xuejin Wang;Qiuping Jiang;Feng Shao;Ke Gu;Guangtao Zhai;Xiaokang Yang
Publication Year: 2021,Page(s):692 - 705
(5284 Kb)

A Hierarchical Visual Feature-Based Approach For Image Sonification
Ohini Kafui Toffa;Max Mignotte
Publication Year: 2021,Page(s):706 - 715
(4007 Kb)

Predictive Adaptive Streaming to Enable Mobile 360-Degree and VR Experiences
Xueshi Hou;Sujit Dey;Jianzhong Zhang;Madhukar Budagavi
Publication Year: 2021,Page(s):716 - 731
(3772 Kb)

Patch Based Video Summarization With Block Sparse Representation
Shaohui Mei;Mingyang Ma;Shuai Wan;Junhui Hou;Zhiyong Wang;David Dagan Feng
Publication Year: 2021,Page(s):732 - 747
Cited by: [Papers \(2\)](#)
(2833 Kb)

Viewport-Dependent Saliency Prediction in 360° Video
Minglang Qiao;Mai Xu;Zulin Wang;Ali Borji
Publication Year: 2021,Page(s):748 - 760
(6377 Kb)

Learning Crisp Boundaries Using Deep Refinement Network and Adaptive Weighting Loss
Yi-Jun Cao;Chuan Lin;Yong-Jie Li
Publication Year: 2021,Page(s):761 - 771
(3919 Kb)

Frequency-Dependent Depth Map Enhancement via Iterative Depth-Guided Affine Transformation and Intensity-Guided Refinement
Yifan Zuo;Yuming Fang;Ping An;Xiwu Shang;Junnan Yang
Publication Year: 2021,Page(s):772 - 783
(3862 Kb)

An Attention-Based Unsupervised Adversarial Model for Movie Review Spam Detection
Yuan Gao;Maoguo Gong;Yu Xie;A. K. Qin
Publication Year: 2021,Page(s):784 - 796
(3220 Kb)

Panoramic Video Quality Assessment Based on Non-Local Spherical CNN
Jiachen Yang;Tianlin Liu;Bin Jiang;Wen Lu;Qinggang Meng
Publication Year: 2021,Page(s):797 - 809
(3788 Kb)

Intermittent Contextual Learning for Keyfilter-Aware UAV Object Tracking Using Deep Convolutional Feature
Yiming Li;Changhong Fu;Ziyuan Huang;Yinqiang Zhang;Jia Pan
Publication Year: 2021,Page(s):810 - 822
Cited by: [Papers \(5\)](#)
(6327 Kb)

IEEE TRANSACTIONS ON SIGNAL AND INFORMATION PROCESSING OVER NETWORKS

A PUBLICATION OF
THE IEEE SIGNAL PROCESSING SOCIETY
THE IEEE COMMUNICATIONS SOCIETY
THE IEEE COMPUTER SOCIETY



2021

IEEE Signal Processing Society

Publication Year: 2021,Page(s):C2 - C2
(40 Kb)

Federated Tobit Kalman Filtering Fusion With Dead-Zone-Like
Censoring and Dynamical Bias Under the Round-Robin Protocol
Hang Geng;Zidong Wang;Fuad E. Alsaadi;Khalid H. Alharbi;Yuhua
Cheng

Publication Year: 2021,Page(s):1 - 16
(1411 Kb)

node2coords: Graph Representation Learning with Wasserstein
Barycenters

Effrosyni Simou;Dorina Thanou;Pascal Frossard
Publication Year: 2021,Page(s):17 - 29
(1914 Kb)

Multiscale Representation Learning of Graph Data With Node
Affinity

Xing Gao;Wenrui Dai;Chenglin Li;Hongkai Xiong;Pascal Frossard
Publication Year: 2021,Page(s):30 - 44
(1620 Kb)

Weighted Average Consensus-Based Optimization of Advection-
Diffusion Systems

Saber Jafarizadeh
Publication Year: 2021,Page(s):45 - 61
(1132 Kb)

Adaptive Graph Filters in Reproducing Kernel Hilbert Spaces:
Design and Performance Analysis

Vitor R. M. Elias;Vinay Chakravarthi Gogineni;Wallace A.
Martins;Stefan Werner
Publication Year: 2021,Page(s):62 - 74
(2005 Kb)

Recursive Secure Filtering Over Gilbert-Elliott Channels in Sensor
Networks: The Distributed Case

Derui Ding;Zidong Wang;Qing-Long Han;Xian-Ming Zhang
Publication Year: 2021,Page(s):75 - 86
(819 Kb)

Distributed Training of Graph Convolutional Networks

Simone Scardapane;Indro Spinelli;Paolo Di Lorenzo
Publication Year: 2021,Page(s):87 - 100
(8525 Kb)

Cluster Prediction for Opinion Dynamics From Partial Observations

Zehong Zhang;Fei Lu
Publication Year: 2021,Page(s):101 - 113
(2202 Kb)

Power-Optimal Distributed Beamforming for Multi-Carrier

Asynchronous Bidirectional Relay Networks
Sharareh Kiani;Shahram ShahbazPanahi;Min Dong;Gary Boudreau
Publication Year: 2021,Page(s):114 - 129
(1286 Kb)

Community Detection in Dynamic Networks: Equivalence Between
Stochastic Blockmodels and Evolutionary Spectral Clustering

Abdullah Karaaslanlı;Selin Aviyente
Publication Year: 2021,Page(s):130 - 143
(1397 Kb)

IEEE

INTERNET OF THINGS JOURNAL

A JOINT PUBLICATION OF THE IEEE SENSORS COUNCIL 

THE IEEE COMMUNICATIONS SOCIETY 

THE IEEE COMPUTER SOCIETY 

THE IEEE SIGNAL PROCESSING SOCIETY 

FEBRUARY 1, 2021

VOLUME 8

NUMBER 3

IITJAU

(ISSN 2327-4662)

Front Cover

Publication Year: 2021,Page(s):C1 - C1
(135 Kb)

IEEE Internet of Things Journal

Publication Year: 2021,Page(s):C2 - C2
(78 Kb)

Table of contents

Publication Year: 2021,Page(s):i - iii
(181 Kb)

EasiEdge: A Novel Global Deep Neural Networks Pruning Method for Efficient Edge Computing

Fang Yu;Li Cui;Pengcheng Wang;Chuanqi Han;Ruoran Huang;Xi Huang
Publication Year: 2021,Page(s):1259 - 1271
(1948 Kb)

Locality-Sensitive IoT Network Traffic Fingerprinting for Device Identification

Batyr Charyyev;Mehmet Hadi Gunes
Publication Year: 2021,Page(s):1272 - 1281
(1645 Kb)

Dynamically Transient Social Community Detection for Mobile Social Networks

Xiaoyan Bi;Tie Qiu;Wenyu Qu;Laiping Zhao;Xiaobo Zhou;Dapeng Oliver Wu
Publication Year: 2021,Page(s):1282 - 1293
(1664 Kb)

ViMo: Multiperson Vital Sign Monitoring Using Commodity Millimeter-Wave Radio

Fengyu Wang;Feng Zhang;Chenshu Wu;Beibei Wang;K. J. Ray Liu
Publication Year: 2021,Page(s):1294 - 1307
(2655 Kb)

Soft Actor-Critic DRL for Live Transcoding and Streaming in Vehicular Fog-Computing-Enabled IoV

Fang Fu;Yunpeng Kang;Zhikai Zhang;F. Richard Yu;Tuan Wu
Publication Year: 2021,Page(s):1308 - 1321
(2453 Kb)

Resource Allocation and 3-D Placement for UAV-Enabled Energy-Efficient IoT Communications

Yanming Liu;Kai Liu;Jinglin Han;Lipeng Zhu;Zhenyu Xiao;Xiang-Gen Xia
Publication Year: 2021,Page(s):1322 - 1333
(1250 Kb)

Empowering Self-Organized Feature Maps for AI-Enabled Modeling of Fake Task Submissions to Mobile Crowdsensing Platforms

Yueqian Zhang;Murat Simsek;Burak Kantarci
Publication Year: 2021,Page(s):1334 - 1346
(4695 Kb)

Delay-Optimized Resource Allocation in Fog-Based Vehicular Networks

Kecheng Zhang;Mugen Peng;Yaohua Sun
Publication Year: 2021,Page(s):1347 - 1357
(1104 Kb)

A Machine Learning Approach for Task and Resource Allocation in Mobile-Edge Computing-Based Networks

Sihua Wang;Mingzhe Chen;Xuanlin Liu;Changchuan Yin;Shuguang Cui;H. Vincent Poor
Publication Year: 2021,Page(s):1358 - 1372
Cited by: [Papers \(4\)](#)
(1249 Kb)

Flow Experience Detection and Analysis for Game Users by Wearable-Devices-Based Physiological Responses Capture

Xiaozhen Ye;Huansheng Ning;Per Backlund;Jianguo Ding
Publication Year: 2021,Page(s):1373 - 1387
(3666 Kb)

A Scalable and Energy-Efficient Anomaly Detection Scheme in Wireless SDN-Based mMTC Networks for IoT

Bizhu Wang;Yan Sun;Xiaodong Xu
Publication Year: 2021,Page(s):1388 - 1405
(3352 Kb)

A Self-Adaptive AP Selection Algorithm Based on Multiobjective Optimization for Indoor WiFi Positioning

Wei Zhang;Kegen Yu;Weixi Wang;Xiaoming Li
Publication Year: 2021,Page(s):1406 - 1416
Cited by: [Papers \(1\)](#)
(2758 Kb)

Scalar Product Lattice Computation for Efficient Privacy-Preserving Systems

Yogachandran Rahulamathavan;Safak Dogan;Xiyu Shi;Rongxing Lu;Muttukrishnan Rajarajan;Ahmet Kondo
Publication Year: 2021,Page(s):1417 - 1427
(1362 Kb)

On Fast Retrial for Two-Step Random Access in MTC

Jinho Choi
Publication Year: 2021,Page(s):1428 - 1436
Cited by: [Papers \(1\)](#)
(1071 Kb)

Heterogeneously Reconfigurable Energy Harvester: An Algorithm for Optimal Reconfiguration

Jong Ho Moon;Jong Jin Park;Kang-Yoon Lee;Dong In Kim
Publication Year: 2021,Page(s):1437 - 1452
(3220 Kb)

An Application-Driven Nonorthogonal-Multiple-Access-Enabled Computation Offloading Scheme

Qiqi Ren;Jian Chen;Omid Abbasi;Gunes Karabulut Kurt;Halim Yanikomeroglu;F. Richard Yu
Publication Year: 2021,Page(s):1453 - 1466
(1107 Kb)

Secrecy Outage Minimization for Wireless-Powered Relay Networks With Destination-Assisted Cooperative Jamming

Kisong Lee;Junseong Bang;Hyun-Ho Choi
Publication Year: 2021,Page(s):1467 - 1476
Cited by: [Papers \(1\)](#)
(1426 Kb)

Prioritized Multistream Traffic in Uplink IoT Networks: Spatially Interacting Vacation Queues

Mustafa Emara;Hesham ElSawy;Gerhard Bauch
Publication Year: 2021,Page(s):1477 - 1491
(1192 Kb)

On the Fundamental Tradeoffs Between Video Freshness and Video Quality in Real-Time Applications

Junchao Ma;Lingjia Liu;Hao Song;Pingzhi Fan
Publication Year: 2021,Page(s):1492 - 1503
(1012 Kb)

DeepEDN: A Deep-Learning-Based Image Encryption and Decryption Network for Internet of Medical Things

Yi Ding;Guozheng Wu;Dajiang Chen;Ning Zhang;Linpeng Gong;Mingsheng Cao;Zhiguang Qin
Publication Year: 2021,Page(s):1504 - 1518
Cited by: [Papers \(1\)](#)
(4849 Kb)

Cantor: Improving Goodput in LoRa Concurrent Transmission

Dan Xu;Xiaojiang Chen;Nannan Zhang;Nana Ding;Jing Zhang;Dingyi Fang;Tao Gu
Publication Year: 2021,Page(s):1519 - 1532
(4205 Kb)

Physical Activity Recognition With Statistical-Deep Fusion Model Using Multiple Sensory Data for Smart Health

Thien Huynh-The;Cam-Hao Hua;Nguyen Anh Tu;Dong-Seong Kim
Publication Year: 2021,Page(s):1533 - 1543
Cited by: [Papers \(3\)](#)
(1882 Kb)

Indoor/Outdoor Switching Detection Using Multisensor DenseNet and LSTM

Yida Zhu;Haiyong Luo;Fang Zhao;Runze Chen
Publication Year: 2021,Page(s):1544 - 1556
(2473 Kb)

Joint Trajectory Design and Resource Allocation for Secure Transmission in Cache-Enabled UAV-Relaying Networks With D2D Communications

Jiequ Ji;Kun Zhu;Dusit Niyato;Ran Wang
Publication Year: 2021,Page(s):1557 - 1571
(1396 Kb)

An Online Learning Approach to Computation Offloading in Dynamic Fog Networks

Miao Yang;Hongbin Zhu;Haifeng Wang;Yevgeni Koucheryavy;Konstantin Samouylov;Hua Qian
Publication Year: 2021,Page(s):1572 - 1584
(1730 Kb)

Wireless-Powered Over-the-Air Computation in Intelligent Reflecting Surface-Aided IoT Networks

Zhibin Wang;Yuanming Shi;Yong Zhou;Haibo Zhou;Ning Zhang
Publication Year: 2021,Page(s):1585 - 1598
Cited by: [Papers \(1\)](#)
(867 Kb)

Matchmaker: Stable Task Assignment With Bounded Constraints for Crowdsourcing Platforms

Xiaoyan Yin;Yanjiao Chen;Cheng Xu;Sijia Yu;Baochun Li
Publication Year: 2021,Page(s):1599 - 1610
(1491 Kb)

Bioinspired Cooperative Wireless Energy Transfer for Lifetime Maximization in Multihop Networks

Hyun-Ho Choi;Kisong Lee
Publication Year: 2021,Page(s):1611 - 1622
(1665 Kb)

Dynamic Aerial Base Station Placement for Minimum-Delay Communications

Tong Bai;Cunhua Pan;Jingjing Wang;Yansha Deng;Maged Elkashlan;Arumugam Nallanathan;Lajos Hanzo
Publication Year: 2021,Page(s):1623 - 1635
(939 Kb)

Accelerometer-Based Key Generation and Distribution Method for Wearable IoT Devices

Fangmin Sun;Weilin Zang;Haohua Huang;Ildar Farkhatdinov;Ye Li
Publication Year: 2021,Page(s):1636 - 1650
(4726 Kb)

Fast and Reliable Dynamic Tag Estimation in Large-Scale RFID Systems

Zhong Xi;Xuan Liu;Juan Luo;Shigeng Zhang;Song Guo
Publication Year: 2021,Page(s):1651 - 1661
(1429 Kb)

Low-Cost and Confidentiality-Preserving Multi-Image Compressed Acquisition and Separate Reconstruction for Internet of Multimedia Things

Mengdi Wang;Di Xiao;Yong Xiang
Publication Year: 2021,Page(s):1662 - 1673
(3781 Kb)

Quasi-Optimization of Uplink Power for Enabling Green URLLC in Mobile UAV-Assisted IoT Networks: A Perturbation-Based Approach

Ali Ranjha;Georges Kaddoum

Publication Year: 2021,Page(s):1674 - 1686
(1125 Kb)

Modeling Data Redundancy and Cost-Aware Task Allocation in MEC-Enabled Internet-of-Vehicles Applications

Tri D. T. Nguyen;VanDung Nguyen;Van-Nam Pham;Luan N. T. Huynh;Md. Delowar Hossain;Eui-Nam Huh

Publication Year: 2021,Page(s):1687 - 1701
(2154 Kb)

Robust Beamforming Designs in Secure MIMO SWIPT IoT Networks With a Nonlinear Channel Model

Zhengyu Zhu;Ning Wang;Wanming Hao;Zhongyong Wang;Inkyu Lee

Publication Year: 2021,Page(s):1702 - 1715
Cited by: [Papers \(1\)](#)
(1135 Kb)

Tightly Coupled Integration of INS and UWB Using Fixed-Lag Extended UFIR Smoothing for Quadrotor Localization

Yuan Xu;Yuriy S. Shmaliy;Choon Ki Ahn;Tao Shen;Yuan Zhuang

Publication Year: 2021,Page(s):1716 - 1727
Cited by: [Papers \(3\)](#)
(2601 Kb)

ViPSN: A Vibration-Powered IoT Platform

Xin Li;Li Teng;Hong Tang;Jingying Chen;Haoyu Wang;Yu Liu;Minfan Fu;Junrui Liang

Publication Year: 2021,Page(s):1728 - 1739
Cited by: [Papers \(1\)](#)
(4436 Kb)

Three-Dimensional Working Pose Estimation in Industrial Scenarios With Monocular Camera

Yantao Yu;Heng Li;Jiannong Cao;Xiaochun Luo

Publication Year: 2021,Page(s):1740 - 1748
(2258 Kb)

Designing Large-Scale Constellations for the Internet of Space Things With CubeSats

Ahan Kak;Ian F. Akyildiz

Publication Year: 2021,Page(s):1749 - 1768
(5635 Kb)

Transmission Scheduling for Hybrid Backscatter-HTT Nodes

Shan Zhong;Xiaodong Wang

Publication Year: 2021,Page(s):1769 - 1782
(1012 Kb)

Secure Communication for Multiquadrotor Networks Using Ethereum Blockchain

Pramod Abichandani;Deepan Lobo;Smit Kabrawala;William McIntyre

Publication Year: 2021,Page(s):1783 - 1796
(3274 Kb)

Comparing Apples and Oranges in IoT Context: A Deep Dive Into Methods for Comparing IoT Platforms

Adriana Mijuskovic;Ikram Ullah;Rob Bemthuis;Nirvana Meratnia;Paul Havinga

Publication Year: 2021,Page(s):1797 - 1816
(4433 Kb)

Privacy-Preserving Blockchain-Based Federated Learning for IoT Devices

Yang Zhao;Jun Zhao;Linshan Jiang;Rui Tan;Dusit

Niyato;Zengxiang Li;Lingjuan Lyu;Yingbo Liu
Publication Year: 2021,Page(s):1817 - 1829

Cited by: [Papers \(4\)](#)
(1725 Kb)

Game-Theoretic Actor-Critic-Based Intrusion Response Scheme (GTAC-IRS) for Wireless SDN-Based IoT Networks

Bizhu Wang;Yan Sun;Mengying Sun;Xiaodong Xu

Publication Year: 2021,Page(s):1830 - 1845
(1590 Kb)

QuickCal: Assisted Calibration for Crystal-Free Micromotes

Tengfei Chang;Thomas Watteyne;Filip Maksimovic;Brad

Wheeler;David C. Burnett;Titan Yuan;Xavier Vilajosana;Kristofer S. J. Pister

Publication Year: 2021,Page(s):1846 - 1858
(3850 Kb)

A Social-Relationships-Based Service Recommendation System for SIoT Devices

Amar Khelloufi;Huansheng Ning;Sahraoui Dhelim;Tie Qiu;Jianhua

Ma;Runhe Huang;Luigi Atzori

Publication Year: 2021,Page(s):1859 - 1870
Cited by: [Papers \(1\)](#)
(2113 Kb)

REA-6TiSCH: Reliable Emergency-Aware Communication Scheme for 6TiSCH Networks

Hossam Farag;Simone Grimaldi;Mikael Gidlund;Patrik Österberg

Publication Year: 2021,Page(s):1871 - 1882
(1976 Kb)

Multiple Unmanned-Aerial-Vehicles Deployment and User Pairing for Nonorthogonal Multiple Access Schemes

Jie Wang;Miao Liu;Jinlong Sun;Guan Gui;Haris Gacanin;Hikmet

Sari;Fumiyuki Adachi

Publication Year: 2021,Page(s):1883 - 1895
(1694 Kb)

Service-Oriented Energy-Latency Tradeoff for IoT Task Partial Offloading in MEC-Enhanced Multi-RAT Networks

Meng Qin;Nan Cheng;Zewei Jing;Tingting Yang;Wenchao

Xu;Qinghai Yang;Ramesh R. Rao

Publication Year: 2021,Page(s):1896 - 1907
(1326 Kb)

Efficient and Secure Certificateless Aggregate Signature-Based Authentication Scheme for Vehicular Ad Hoc Networks

Gowri Thumbar;G. Srinivasa Rao;P. Vasudeva Reddy;N. B.

Gayathri;D. V. R. Koti Reddy;M. Padmavathamma

Publication Year: 2021,Page(s):1908 - 1920
(2085 Kb)

Energy Efficiency of Two-Way Communications Under Various Duplex Modes

Wei Guo;Han Zhang;Chuan Huang

Publication Year: 2021,Page(s):1921 - 1933
(1184 Kb)

Robust Neighbor-Aware Time Synchronization Protocol for Wireless Sensor Network in Dynamic and Hostile Environments

Linh-An Phan;Taejoon Kim;Taehong Kim

Publication Year: 2021,Page(s):1934 - 1945
(1827 Kb)

AC4AV: A Flexible and Dynamic Access Control Framework for Connected and Autonomous Vehicles
Qingyang Zhang;Hong Zhong;Jie Cui;Lingmei Ren;Weisong Shi
Publication Year: 2021,Page(s):1946 - 1958
(2069 Kb)

Robust Design for NOMA-Based Multibeam LEO Satellite Internet of Things
Jianhang Chu;Xiaoming Chen;Caijun Zhong;Zhaoyang Zhang
Publication Year: 2021,Page(s):1959 - 1970
(1363 Kb)

A Two-Tier Collection and Processing Scheme for Fog-Based Mobile Crowdsensing in the Internet of Vehicles
Gang Sun;Liangjun Song;Hongfang Yu;Xiaojiang Du;Mohsen Guizani
Publication Year: 2021,Page(s):1971 - 1984
(2256 Kb)

LoRa System for Search and Rescue: Path-Loss Models and Procedures in Mountain Scenarios
Giulio Maria Bianco;Romeo Giuliano;Gaetano Marrocco;Franco Mazzenga;Abraham Mejia-Aguilar
Publication Year: 2021,Page(s):1985 - 1999
(3559 Kb)

Understanding and Modeling of WiFi Signal-Based Indoor Privacy Protection
Wei Zhang;Siwang Zhou;Dan Peng;Liang Yang;Fangmin Li;Hui Yin
Publication Year: 2021,Page(s):2000 - 2010
(2619 Kb)

Pedestrian Dead Reckoning Based on Walking Pattern Recognition and Online Magnetic Fingerprint Trajectory Calibration
Qu Wang;Haiyong Luo;Hao Xiong;Aidong Men;Fang Zhao;Ming Xia;Changhai Ou
Publication Year: 2021,Page(s):2011 - 2026
(6224 Kb)

Cost-Effective Bad Synchrophasor Data Detection Based on Unsupervised Time-Series Data Analytic
Lipeng Zhu;David J. Hill
Publication Year: 2021,Page(s):2027 - 2039
(3222 Kb)

A Blockchain-Enabled Ecosystem for Distributed Electricity Trading in Smart City
Jianxiong Guo;Xingjian Ding;Weili Wu
Publication Year: 2021,Page(s):2040 - 2050
(1694 Kb)

Identification of Active Attacks in Internet of Things: Joint Model- and Data-Driven Automatic Modulation Classification Approach
Sai Huang;Chunsheng Lin;Wenjun Xu;Yue Gao;Zhiyong Feng;Fusheng Zhu
Publication Year: 2021,Page(s):2051 - 2065
(3260 Kb)

A Novel Generation-Adversarial-Network-Based Vehicle Trajectory Prediction Method for Intelligent Vehicular Networks
Liang Zhao;Yufei Liu;Ahmed Y. Al-Dubai;Albert Y. Zomaya;Geyong Min;Ammar Hawbani
Publication Year: 2021,Page(s):2066 - 2077
(2333 Kb)

ECE: A Novel Performance Evaluation Metric for Clustering Protocols in Cognitive Radio Sensor Networks
Jihong Wang;Shuo Li
Publication Year: 2021,Page(s):2078 - 2079
(576 Kb)

DORA: A Destination-Oriented Routing Algorithm for Energy-Balanced Wireless Sensor Networks
Kun Wang;Chih-Min Yu;Li-Chun Wang
Publication Year: 2021,Page(s):2080 - 2081
(899 Kb)

IEEE Internet of Things Journal
Publication Year: 2021,Page(s):C3 - C3
(138 Kb)

Information for Authors
Publication Year: 2021,Page(s):C4 - C4
(190 Kb)

A JOINT PUBLICATION OF THE IEEE SENSORS COUNCIL 

THE IEEE COMMUNICATIONS SOCIETY 

THE IEEE COMPUTER SOCIETY 

THE IEEE SIGNAL PROCESSING SOCIETY 

FEBRUARY 15, 2021

VOLUME 8

NUMBER 4

IITJAU

(ISSN 2327-4662)

[Front cover]

Publication Year: 2021,Page(s):C1 - C1
(135 Kb)

IEEE Internet of Things Journal

Publication Year: 2021,Page(s):C2 - C2
(79 Kb)

Table of contents

Publication Year: 2021,Page(s):i - iii
(199 Kb)

Guest Editorial: Special Issue on Blockchain and Edge Computing
Techniques for Emerging IoT Applications

Victor C. M. Leung;Xiaofei Wang;F. Richard Yu;Dusit Niyato;Tarik
Taleb;Sangheon Park

Publication Year: 2021,Page(s):2082 - 2086
(343 Kb)

Blockchain-Based Data Management and Edge-Assisted Trusted
Cloaking Area Construction for Location Privacy Protection in
Vehicular Networks

Jingyu Feng;Yin Wang;Jialin Wang;Fang Ren

Publication Year: 2021,Page(s):2087 - 2101
(3128 Kb)

Securing SDN-Controlled IoT Networks Through Edge Blockchain

Jiejun Hu;Martin Reed;Nikolaos Thomos;Mays F. Al-Naday;Kun
Yang

Publication Year: 2021,Page(s):2102 - 2115
(1529 Kb)

Blockchain-Based Decentralized Authentication Modeling Scheme
in Edge and IoT Environment

Ma Zhaofeng;Meng Jialin;Wang Jihui;Shan Zhiguang

Publication Year: 2021,Page(s):2116 - 2123
(1965 Kb)

A Blockchain-Driven IIoT Traffic Classification Service for Edge
Computing

Heng Qi;Junxiao Wang;Wenxin Li;Yuxin Wang;Tie Qiu

Publication Year: 2021,Page(s):2124 - 2134
(1512 Kb)

Joint Chain-Based Service Provisioning and Request Scheduling
for Blockchain-Powered Edge Computing

Siyuan Gu;Xueshan Luo;Deke Guo;Bangbang Ren;Guoming
Tang;Junjie Xie;Yuchen Sun

Publication Year: 2021,Page(s):2135 - 2149
(2019 Kb)

Distributed Charging-Record Management for Electric Vehicle
Networks via Blockchain

Li Ping Qian;Yuan Wu;Xu Xu;Bo Ji;Zhiguo Shi;Weijia Jia

Publication Year: 2021,Page(s):2150 - 2162
(1894 Kb)

EEDTO: An Energy-Efficient Dynamic Task Offloading Algorithm for
Blockchain-Enabled IoT-Edge-Cloud Orchestrated Computing

Huaming Wu;Katinka Wolter;Pengfei Jiao;Yingjun Deng;Yubin
Zhao;Minxian Xu

Publication Year: 2021,Page(s):2163 - 2176
(1514 Kb)

Social Interaction and Information Diffusion in Social Internet of
Things: Dynamics, Cloud-Edge, Traceability

Yinxue Yi;Zufan Zhang;Laurence T. Yang;Xianjun Deng;Lingzhi
Yi;Xiaokang Wang

Publication Year: 2021,Page(s):2177 - 2192
(4283 Kb)

Near-Online Tracking With Co-Occurrence Constraints in
Blockchain-Based Edge Computing

Hao Sheng;Shuai Wang;Yang Zhang;Dongxiao Yu;Xiuzhen
Cheng;Weifeng Lyu;Zhang Xiong

Publication Year: 2021,Page(s):2193 - 2207
(2779 Kb)

Adaptive and Robust Routing With Lyapunov-Based Deep RL in
MEC Networks Enabled by Blockchains

Zirui Zhuang;Jingyu Wang;Qi Qi;Jianxin Liao;Zhu Han

Publication Year: 2021,Page(s):2208 - 2225
(3401 Kb)

Blockchain-Based Edge Computing Resource Allocation in IoT: A
Deep Reinforcement Learning Approach

Ying He;Yuhang Wang;Chao Qiu;Qiuzhen Lin;Jianqiang Li;Zhong
Ming

Publication Year: 2021,Page(s):2226 - 2237
(1089 Kb)

When Deep Reinforcement Learning Meets Federated Learning: Intelligent Multitimescale Resource Management for Multiaccess Edge Computing in 5G Ultradense Network
Shuai Yu;Xu Chen;Zhi Zhou;Xiaowen Gong;Di Wu
Publication Year: 2021,Page(s):2238 - 2251
Cited by: Papers (1)
(2566 Kb)

Hybrid Blockchain-Based Resource Trading System for Federated Learning in Edge Computing
Sizheng Fan;Hongbo Zhang;Yuchen Zeng;Wei Cai
Publication Year: 2021,Page(s):2252 - 2264
(1492 Kb)

Exploiting Unintended Property Leakage in Blockchain-Assisted Federated Learning for Intelligent Edge Computing
Meng Shen;Huan Wang;Bin Zhang;Liehuang Zhu;Ke Xu;Qi Li;Xiaojiang Du
Publication Year: 2021,Page(s):2265 - 2275
(1732 Kb)

Communication-Efficient Federated Learning and Permissioned Blockchain for Digital Twin Edge Networks
Yunlong Lu;Xiaohong Huang;Ke Zhang;Sabita Maharjan;Yan Zhang
Publication Year: 2021,Page(s):2276 - 2288
(1859 Kb)

Smart Micro-GaS: A Cognitive Micro Natural Gas Industrial Ecosystem Based on Mixed Blockchain and Edge Computing
Yiming Miao;Jeungeun Song;Haoquan Wang;Long Hu;Mohammad Mehedi Hassan;Min Chen
Publication Year: 2021,Page(s):2289 - 2299
(2509 Kb)

Convergence of Blockchain and Edge Computing for Secure and Scalable IIoT Critical Infrastructures in Industry 4.0
Yulei Wu;Hong-Ning Dai;Hao Wang
Publication Year: 2021,Page(s):2300 - 2317
(3249 Kb)

Energy-Efficient Resource Allocation for Blockchain-Enabled Industrial Internet of Things With Deep Reinforcement Learning
Le Yang;Meng Li;Pengbo Si;Ruizhe Yang;Enchang Sun;Yanhua Zhang
Publication Year: 2021,Page(s):2318 - 2329
(1920 Kb)

Distributed Resource Management for Blockchain in Fog-Enabled IoT Networks
Lichao Yang;Ming Li;Heli Zhang;Hong Ji;Mingyan Xiao;Xi Li
Publication Year: 2021,Page(s):2330 - 2341
(1727 Kb)

Blockchain-Enabled Secure Data Sharing Scheme in Mobile-Edge Computing: An Asynchronous Advantage Actor-Critic Learning Approach
Lei Liu;Jie Feng;Qingqi Pei;Chen Chen;Yang Ming;Bodong Shang;Mianxiong Dong
Publication Year: 2021,Page(s):2342 - 2353
(1668 Kb)

A Data Set Accuracy Weighted Random Forest Algorithm for IoT Fault Detection Based on Edge Computing and Blockchain
Wenbo Zhang;Jiaxing Wang;Guangjie Han;Shuqiang Huang;Yongxin Feng;Lei Shu
Publication Year: 2021,Page(s):2354 - 2363
(1427 Kb)

NOMA-Enabled Cooperative Computation Offloading for Blockchain-Empowered Internet of Things: A Learning Approach
Zhenni Li;Minrui Xu;Jiangtian Nie;Jiawen Kang;Wuhui Chen;Shengli Xie
Publication Year: 2021,Page(s):2364 - 2378
Cited by: Papers (1)
(2590 Kb)

Intelligent Charging Path Planning for IoT Network Over Blockchain-Based Edge Architecture
Hsin-Hung Cho;Hsin-Te Wu;Chin-Feng Lai;Timothy K. Shih;Fan-Hsun Tseng
Publication Year: 2021,Page(s):2379 - 2394
(3360 Kb)

A Blockchain-Based Containerized Edge Computing Platform for the Internet of Vehicles
Laizhong Cui;Ziteng Chen;Shu Yang;Zhongxing Ming;Qi Li;Yipeng Zhou;Shiping Chen;Qinghua Lu
Publication Year: 2021,Page(s):2395 - 2408
(2169 Kb)

A Blockchain and Edge-Computing-Based Secure Framework for Government Tender Allocation
Vikas Hassija;Vinay Chamola;Dara Nanda Gopala Krishna;Neeraj Kumar;Mohsen Guizani
Publication Year: 2021,Page(s):2409 - 2418
(1200 Kb)

Design and Prototype Implementation of a Blockchain-Enabled LoRa System With Edge Computing
Lu Hou;Kan Zheng;Zhiming Liu;Xiaojun Xu;Tao Wu
Publication Year: 2021,Page(s):2419 - 2430
(2763 Kb)

A Blockchain-Enabled Energy-Efficient Data Collection System for UAV-Assisted IoT
Xiaobin Xu;Hui Zhao;Haipeng Yao;Shangguang Wang
Publication Year: 2021,Page(s):2431 - 2443
(2553 Kb)

Boosting Edge Intelligence With Collaborative Cross-Edge Analytics
Hai Jin;Lin Jia;Zhi Zhou
Publication Year: 2021,Page(s):2444 - 2458
(853 Kb)

STEC-IoT: A Security Tactic by Virtualizing Edge Computing on IoT
Peiyang Zhang;Chunxiao Jiang;Xue Pang;Yi Qian
Publication Year: 2021,Page(s):2459 - 2467
Cited by: Papers (1)
(1351 Kb)

A Proof-of-Quality-Factor (PoQF)-Based Blockchain and Edge Computing for Vehicular Message Dissemination
Ferheen Ayaz;Zhengguo Sheng;Daxin Tian;Yong Liang Guan
Publication Year: 2021,Page(s):2468 - 2482
(3280 Kb)

Offloading Time Optimization via Markov Decision Process in Mobile-Edge Computing
Guisong Yang;Ling Hou;Xingyu He;Daojing He;Sammy Chan;Mohsen Guizani
Publication Year: 2021,Page(s):2483 - 2493
(1131 Kb)

Design, Resource Management, and Evaluation of Fog Computing Systems: A Survey
Ismael Martinez;Abdelhakim Senhaji Hafid;Abdallah Jarray
Publication Year: 2021,Page(s):2494 - 2516
(2365 Kb)

Device-Free Wireless Sensing for Human Detection: The Deep Learning Perspective
Ronghui Zhang;Xiaojun Jing;Sheng Wu;Chunxiao Jiang;Junsheng Mu;F. Richard Yu
Publication Year: 2021,Page(s):2517 - 2539
(3481 Kb)

Building a Lane Merge Coordination for Connected Vehicles Using Deep Reinforcement Learning
Omar Nassef;Luis Sequeira;Elias Salam;Toktam Mahmoodi
Publication Year: 2021,Page(s):2540 - 2557
(3882 Kb)

BMADS: BLE Mesh Asynchronous Dynamic Scanning
D. Perez-Diaz-de-Cerio;J. L. Valenzuela;Mario Garcia-Lozano;Á. Hernández-Solana;A. Valdovinos
Publication Year: 2021,Page(s):2558 - 2573
(4137 Kb)

Modeling DRX for D2D Communication
Farnaz Moradi;Emma Fitzgerald;Björn Landfeldt
Publication Year: 2021,Page(s):2574 - 2584
(1234 Kb)

Adaptive Switching Scheme for RS Overhead Reduction in Massive MIMO With Industrial Internet of Things
Byung Moo Lee
Publication Year: 2021,Page(s):2585 - 2602
(1947 Kb)

A Nonintrusive Elderly Home Monitoring System
Le Fang;Yu Wu;Chuan Wu;Yizhou Yu
Publication Year: 2021,Page(s):2603 - 2614
(2455 Kb)

IoT-Enabled Automatic Synthesis of Distributed Feedback Control Schemes in Smart Buildings
George M. Milis;Christos G. Panayiotou;Marios M. Polycarpou
Publication Year: 2021,Page(s):2615 - 2626
(2353 Kb)

Zero-Bias Deep Learning for Accurate Identification of Internet-of-Things (IoT) Devices
Yongxin Liu;Jian Wang;Jianqiang Li;Houbing Song;Thomas Yang;Shuteng Niu;Zhong Ming
Publication Year: 2021,Page(s):2627 - 2634
(1381 Kb)

Multilayer Internet-of-Things Middleware Based on Knowledge Graph
Cheng Xie;Beibei Yu;Zuoying Zeng;Yun Yang;Qing Liu
Publication Year: 2021,Page(s):2635 - 2648
(5867 Kb)

A Periodic and Distributed Energy Supplement Method Based on Maximum Recharging Benefit in Sensor Networks
Chao Sha;Dandan Song;Reza Malekian
Publication Year: 2021,Page(s):2649 - 2669
(6583 Kb)

A Novel Collision-Aware Adaptive Data Rate Algorithm for LoRaWAN Networks
Riccardo Marini;Walter Cerroni;Chiara Buratti
Publication Year: 2021,Page(s):2670 - 2680
(1901 Kb)

Voting-Based Multiagent Reinforcement Learning for Intelligent IoT
Yue Xu;Zengde Deng;Mengdi Wang;Wenjun Xu;Anthony Man-Cho So;Shuguang Cui
Publication Year: 2021,Page(s):2681 - 2693
(2783 Kb)

Batteryless LoRaWAN Communications Using Energy Harvesting: Modeling and Characterization
Carmen Delgado;José María Sanz;Chris Blondia;Jeroen Famaey
Publication Year: 2021,Page(s):2694 - 2711
Cited by: Papers (1)
(2773 Kb)

Online Collaborative Localization
Chanxin Zhou;Bang Wang
Publication Year: 2021,Page(s):2712 - 2721
(3527 Kb)

Peer Offloading in Mobile-Edge Computing With Worst Case Response Time Guarantees
Xingqiu He;Sheng Wang
Publication Year: 2021,Page(s):2722 - 2735
(850 Kb)

Context-Rich Privacy Leakage Analysis Through Inferring Apps in Smart Home IoT
Yuan Luo;Long Cheng;Hongxin Hu;Guojun Peng;Danfeng Yao
Publication Year: 2021,Page(s):2736 - 2750
(2612 Kb)

Achieving Democracy in Edge Intelligence: A Fog-Based Collaborative Learning Scheme
Tiehua Zhang;Zhishu Shen;Jiong Jin;Xi Zheng;Atsushi Tagami;Xianghui Cao
Publication Year: 2021,Page(s):2751 - 2761
Cited by: Papers (1)
(2666 Kb)

SpeedNet: Indoor Speed Estimation With Radio Signals
Yan Chen;Hongyu Deng;Dongheng Zhang;Yang Hu
Publication Year: 2021,Page(s):2762 - 2774
(2443 Kb)

DPCrowd: Privacy-Preserving and Communication-Efficient Decentralized Statistical Estimation for Real-Time Crowdsourced Data
Xuebin Ren;Chia-Mu Yu;Wei Yu;Xinyu Yang;Jun Zhao;Shusen Yang
Publication Year: 2021,Page(s):2775 - 2791
(2012 Kb)

Joint Time Allocation for Wireless Energy Harvesting Decode-and-Forward Relay-Based IoT Networks With Rechargeable and Nonrechargeable Batteries
Yeonggyu Shim;Hyuncheol Park;Wonjae Shin
Publication Year: 2021,Page(s):2792 - 2801
(901 Kb)

Intelligent Offloading for NOMA-Assisted MEC via Dual Connectivity
Changxiang Li;Hong Wang;Rongfang Song
Publication Year: 2021,Page(s):2802 - 2813
(1999 Kb)

Acoustical Observation With Multiple Wave Gliders for Internet of Underwater Things
Hualin Lan;Yunfei Lv;Jianjia Jin;Jianghui Li;Dajun Sun;Zhiguo Yang
Publication Year: 2021,Page(s):2814 - 2825
(4072 Kb)

Age-Optimal Service and Decision Processes in Internet of Things
Zhiwei Bao;Yunquan Dong;Zhengchuan Chen;Pingyi Fan;Khaled Ben Letaief
Publication Year: 2021,Page(s):2826 - 2841
(1585 Kb)

Comprehensive Analysis on Least-Squares Lateration for Indoor Positioning Systems
Korhan Cengiz
Publication Year: 2021,Page(s):2842 - 2856
Cited by: Papers (1)
(2653 Kb)

Colonel Blotto Game for Sensor Protection in Interdependent Critical Infrastructure
Aidin Ferdowsi;Walid Saad;Narayan B. Mandayam
Publication Year: 2021,Page(s):2857 - 2874
(2562 Kb)

Resonant Beam Communications With Echo Interference Elimination
Mingliang Xiong;Qingwen Liu;Gang Wang;Georgios B. Giannakis;Sihai Zhang;Jinkang Zhu;Chuan Huang
Publication Year: 2021,Page(s):2875 - 2885
(1461 Kb)

Efficient Data Access Control With Fine-Grained Data Protection in Cloud-Assisted IIoT
Saiyu Qi;Youshui Lu;Wei Wei;Xiaofeng Chen
Publication Year: 2021,Page(s):2886 - 2899
(1449 Kb)

Complexity-Effective Sequential Detection of Synchronization Signal for Cellular Narrowband IoT Communication Systems
Young-Hwan You;Yong-An Jung;Sung-Chan Choi;Intae Hwang
Publication Year: 2021,Page(s):2900 - 2909
(1428 Kb)

False Data Injection Attack and Defense Method on Load Frequency Control
Yuancheng Li;Rong Huang;Longqiang Ma
Publication Year: 2021,Page(s):2910 - 2919
(5593 Kb)

A Secure Scheme Based on One-Way Associated Key Management Model in Wireless Sensor Networks
Sujun Li;Boqing Zhou;Qinqin Hu;Jianxin Wang;Jingguo Dai;Weiping Wang;Huiyong Yuan;Yun Cheng;Jie Wu
Publication Year: 2021,Page(s):2920 - 2930
(1451 Kb)

Noncontact Respiration Detection Leveraging Music and Broadcast Signals
Wentao Xie;Runxin Tian;Jin Zhang;Qian Zhang
Publication Year: 2021,Page(s):2931 - 2942
(2212 Kb)

Trust-Based Cloud Machine Learning Model Selection for Industrial IoT and Smart City Services
Basheer Qolomany;Ihab Mohammed;Ala Al-Fuqaha;Mohsen Guizani;Junaid Qadir
Publication Year: 2021,Page(s):2943 - 2958
Cited by: Papers (1)
(3543 Kb)

Edge Learning With Unmanned Ground Vehicle: Joint Path, Energy, and Sample Size Planning
Dan Liu;Shuai Wang;Zhigang Wen;Lei Cheng;Miaowen Wen;Yik-Chung Wu
Publication Year: 2021,Page(s):2959 - 2975
(1857 Kb)

Secure Ride-Sharing Services Based on a Consortium Blockchain
Di Wang;Xiaohong Zhang
Publication Year: 2021,Page(s):2976 - 2991
(2302 Kb)

Who is Charging My Phone? Identifying Wireless Chargers via Fingerprinting
Jiayu Zhang;Zhiyun Wang;Xiaoyu Ji;Wenyuan Xu;Gang Qu;Minjian Zhao
Publication Year: 2021,Page(s):2992 - 2999
(1603 Kb)

Incentive Jamming-Based Secure Routing in Decentralized Internet of Things
Yang Xu;Jia Liu;Yulong Shen;Jun Liu;Xiaohong Jiang;Tarik Taleb
Publication Year: 2021,Page(s):3000 - 3013
(1791 Kb)

Cascading Scene and Viewpoint Feature Learning for Pedestrian Gender Recognition
Lei Cai;Huanqiang Zeng;Jianqing Zhu;Jiuwen Cao;Yongtao Wang;Kai-Kuang Ma
Publication Year: 2021,Page(s):3014 - 3026
(2064 Kb)

Deep Unfolding With Weighted ℓ_2 Minimization for Compressive Sensing
Jun Zhang;Yuanqing Li;Zhu Liang Yu;Zhenghui Gu;Yu Cheng;Huoqing Gong
Publication Year: 2021,Page(s):3027 - 3041
(4756 Kb)

A Novel Semi-Supervised Learning Approach to Pedestrian Reidentification
Hua Han;Wenjin Ma;MengChu Zhou;Qiang Guo;Abdullah Abusorrah
Publication Year: 2021,Page(s):3042 - 3052
(2475 Kb)

IEEE Internet of Things Journal
Publication Year: 2021,Page(s):C3 - C3
(65 Kb)

Information for Authors
Publication Year: 2021,Page(s):C4 - C4
(154 Kb)

IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS

A PUBLICATION OF
THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY
THE IEEE COMMUNICATIONS SOCIETY
THE IEEE SIGNAL PROCESSING SOCIETY



TECHNICALLY COSPONSORED BY THE IEEE COMPUTER SOCIETY



FEBRUARY 2021

VOLUME 25

NUMBER 2

IJBHA9

(ISSN 2168-2208)

[Front cover]

Publication Year: 2021,Page(s):C1 - C1
(1559 Kb)

IEEE Journal of Biomedical and Health Informatics

Publication Year: 2021,Page(s):C2 - C2
(66 Kb)

Table of contents

Publication Year: 2021,Page(s):301 - 302
(903 Kb)

Editorial Computational Pathology

Francesco Ciompi;Mitko Veta;Jeroen van der Laak;Nasir Rajpoot
Publication Year: 2021,Page(s):303 - 306
(262 Kb)

The Effect of Quality Control on Accuracy of Digital Pathology
Image Analysis

Alexander I. Wright;Catriona M. Dunn;Michael Hale;Gordon G. A.
Hutchins;Darren E. Treanor
Publication Year: 2021,Page(s):307 - 314
(2826 Kb)

Kidney Level Lupus Nephritis Classification Using Uncertainty
Guided Bayesian Convolutional Neural Networks
Pietro Antonio Cicalese;Aryan Mobiny;Zahed
Shahmoradi;Xiongfeng Yi;Chandra Mohan;Hien Van Nguyen
Publication Year: 2021,Page(s):315 - 324
(3550 Kb)

Measuring Domain Shift for Deep Learning in Histopathology
Karin Stacke;Gabriel Eilertsen;Jonas Unger;Claes Lundström
Publication Year: 2021,Page(s):325 - 336
(4386 Kb)

Stain Standardization Capsule for Application-Driven
Histopathological Image Normalization
Yushan Zheng;Zhiguo Jiang;Haopeng Zhang;Fengying Xie;Dingyi
Hu;Shujiao Sun;Jun Shi;Chenghai Xue
Publication Year: 2021,Page(s):337 - 347
(4411 Kb)

Unsupervised Tumor Characterization via Conditional Generative
Adversarial Networks
Quoc Dang Vu;Kyungeun Kim;Jin Tae Kwak
Publication Year: 2021,Page(s):348 - 357
(5400 Kb)

Attention-Guided Multi-Branch Convolutional Neural Network for Mitosis Detection From Histopathological Images
Haijun Lei;Shaomin Liu;Ahmed Elazab;Xuehao Gong;Baiying Lei
Publication Year: 2021,Page(s):358 - 370
(6610 Kb)

Deep Learning With Conformal Prediction for Hierarchical Analysis of Large-Scale Whole-Slide Tissue Images
Håkan Wieslander;Philip J. Harrison;Gabriel Skogberg;Sonya Jackson;Markus Fridén;Johan Karlsson;Ola Spjuth;Carolina Wählby
Publication Year: 2021,Page(s):371 - 380
(2886 Kb)

Quantitative Whole Slide Assessment of Tumor-Infiltrating CD8-Positive Lymphocytes in ER-Positive Breast Cancer in Relation to Clinical Outcome
Daniëlle Krijgsman;Marinus B. van Leeuwen;John van der Ven;Vanda Almeida;Ruud Vlutters;David Halter;Peter J. K. Kuppen;Cornelis J. H. van de Velde;Reinhold Wimberger-Friedl
Publication Year: 2021,Page(s):381 - 392
(4145 Kb)

Towards Automatic Protein Co-Expression Quantification in Immunohistochemical TMA Slides
Leslie Solorzano;Carla Pereira;Diana Martins;Raquel Almeida;Fátima Carneiro;Gabriela M. Almeida;Carla Oliveira;Carolina Wählby
Publication Year: 2021,Page(s):393 - 402
(3373 Kb)

Seamless Virtual Whole Slide Image Synthesis and Validation Using Perceptual Embedding Consistency
Amal Lahiani;Irina Klaman;Nassir Navab;Shadi Albarqouni;Eldad Klaiman
Publication Year: 2021,Page(s):403 - 411
(3200 Kb)

Multi-Task Pre-Training of Deep Neural Networks for Digital Pathology
Romain Mormont;Pierre Geurts;Raphaël Marée
Publication Year: 2021,Page(s):412 - 421
Cited by: Papers (1)
(2900 Kb)

Antibody Supervised Training of a Deep Learning Based Algorithm for Leukocyte Segmentation in Papillary Thyroid Carcinoma
Sebastian Stenman;Dmitrii Bychkov;Hakan Küçükkel;Nina Linder;Caj Haglund;Johanna Arola;Johan Lundin
Publication Year: 2021,Page(s):422 - 428
(3249 Kb)

Deep Learning Methods for Lung Cancer Segmentation in Whole-Slide Histopathology Images—The ACDC@LungHP Challenge 2019
Zhang Li;Jiehua Zhang;Tao Tan;Xichao Teng;Xiaoliang Sun;Hong Zhao;Lihong Liu;Yang Xiao;Byungjae Lee;Yilong Li;Qianni Zhang;Shujiao Sun;Yushan Zheng;Junyu Yan;Ni Li;Yiyu Hong;Junsu Ko;Hyun Jung;Yanling Liu;Yu-cheng Chen;Ching-wei Wang;Vladimir Yurovskiy;Pavel Maevskikh;Vahid Khanagha;Yi Jiang;Li Yu;Zhihong Liu;Daiqiang Li;Peter J. Schöffler;Qifeng Yu;Hui Chen;Yuling Tang;Geert Litjens
Publication Year: 2021,Page(s):429 - 440
(9768 Kb)

COVID-19 CT Image Synthesis With a Conditional Generative Adversarial Network
Yifan Jiang;Han Chen;Murray Loew;Hanseok Ko
Publication Year: 2021,Page(s):441 - 452
(6465 Kb)

Emotion Recognition From Multi-Channel EEG via Deep Forest
Juan Cheng;Meiyao Chen;Chang Li;Yu Liu;Rencheng Song;Aiping Liu;Xun Chen
Publication Year: 2021,Page(s):453 - 464
Cited by: Papers (3)
(2479 Kb)

Sleeve for Knee Angle Monitoring: An IMU-POF Sensor Fusion System
Laura Susana Vargas-Valencia;Felipe B. A. Schneider;Arnaldo G. Leal-Junior;Pablo Caicedo-Rodríguez;Wilson A. Sierra-Arévalo;Luis E. Rodríguez-Cheu;Teodiano Bastos-Filho;Anselmo Frizzera-Neto
Publication Year: 2021,Page(s):465 - 474
(1926 Kb)

Automatic Eyeblink Artifact Removal From EEG Signal Using Wavelet Transform With Heuristically Optimized Threshold
Souvik Phadikar;Nidul Sinha;Rajdeep Ghosh
Publication Year: 2021,Page(s):475 - 484
(3158 Kb)

Altered Time-Frequency Feature in Default Mode Network of Autism Based on Improved Hilbert-Huang Transform
Han Zhang;Rui Li;Xiaotong Wen;Qing Li;Xia Wu
Publication Year: 2021,Page(s):485 - 492
(2458 Kb)

Upper Esophageal Sphincter Opening Segmentation With Convolutional Recurrent Neural Networks in High Resolution Cervical Auscultation
Yassin Khalifa;Cara Donohue;James L. Coyle;Ervin Sejdić
Publication Year: 2021,Page(s):493 - 503
(2941 Kb)

Discriminative Feature Network Based on a Hierarchical Attention Mechanism for Semantic Hippocampus Segmentation
Jiali Shi;Rong Zhang;Lijun Guo;Linlin Gao;Huifang Ma;Jianhua Wang
Publication Year: 2021,Page(s):504 - 513
(2323 Kb)

Multi-Scale Context-Guided Deep Network for Automated Lesion Segmentation With Endoscopy Images of Gastrointestinal Tract
Shuai Wang;Yang Cong;Hancan Zhu;Xianyi Chen;Liangqiong Qu;Huijie Fan;Qiang Zhang;Mingxia Liu
Publication Year: 2021,Page(s):514 - 525
Cited by: Papers (1)
(4426 Kb)

MI-UNet: Multi-Inputs UNet Incorporating Brain Parcellation for Stroke Lesion Segmentation From T1-Weighted Magnetic Resonance Images
Yue Zhang;Jiong Wu;Yilong Liu;Yifan Chen;Ed X. Wu;Xiaoying Tang
Publication Year: 2021,Page(s):526 - 535
(4432 Kb)

Toward a Fully Automated Artificial Pancreas System Using a Bioinspired Reinforcement Learning Design: In Silico Validation
Seunghyun Lee;Jiwon Kim;Sung Woon Park;Sang-Man Jin;Sung-Min Park

Publication Year: 2021,Page(s):536 - 546

Cited by: [Papers \(1\)](#)
(2702 Kb)

Doppler Radar for the Extraction of Biomechanical Parameters in Gait Analysis

Ann-Kathrin Seifert;Martin Grimmer;Abdelhak M. Zoubir

Publication Year: 2021,Page(s):547 - 558

(5453 Kb)

Behavioral Differences Between Subject Groups Identified Using Smart Homes and Change Point Detection

Gina Sprint;Diane J. Cook;Roschelle Fritz

Publication Year: 2021,Page(s):559 - 567

(3388 Kb)

“Automatic Ingestion Monitor Version 2” – A Novel Wearable Device for Automatic Food Intake Detection and Passive Capture of Food Images

Abul Doulah;Tonmoy Ghosh;Delwar Hossain;Masudul H Imtiaz;Edward Sazonov

Publication Year: 2021,Page(s):568 - 576

Cited by: [Papers \(2\)](#)
(1923 Kb)

Sleep Staging Using Plausibility Score: A Novel Feature Selection Method Based on Metric Learning

Tao Zhang;Zhonghui Jiang;Dan Li;Xiao Wei;Bing Guo;Wu Huang;Guobiao Xu

Publication Year: 2021,Page(s):577 - 590

(3398 Kb)

Automatically Assessing Quality of Online Health Articles

Fariha Afsana;Muhammad Ashad Kabir;Naeemul Hassan;Manoranjan Paul

Publication Year: 2021,Page(s):591 - 601

(1424 Kb)

Non-Contact HR Monitoring via Smartphone and Webcam During Different Respiratory Maneuvers and Body Movements

Monay Mokhtar Shoushan;Bersain Alexander Reyes;Aldo Mejia Rodriguez;Jo Woon Chong

Publication Year: 2021,Page(s):602 - 612

(6377 Kb)

IEEE Journal of Biomedical and Health Informatics (J-BHI)

Publication Year: 2021,Page(s):C3 - C3

(24 Kb)

[Blank page]

Publication Year: 2021,Page(s):C4 - C4

(4 Kb)

2021

Visible Light Communications via Intelligent Reflecting Surfaces: Metasurfaces vs Mirror Arrays
Amr M. Abdelhady;Ahmed K. Sultan Salem;Osama Amin;Basem Shihada;Mohamed-Slim Alouini
Publication Year: 2021,Page(s):1 - 20
(3401 Kb)

A UAV-Enabled Wireless Powered Sensor Network Based on NOMA and Cooperative Relaying With Altitude Optimization
Tianji Shen;Hideki Ochiai
Publication Year: 2021,Page(s):21 - 34
(1495 Kb)

Analytical Determination of Thresholds of LDPC Codes in Free Space Optical Channel
Sonali;Abhishek Dixit;Virander Kumar Jain
Publication Year: 2021,Page(s):35 - 47
(4189 Kb)

Novel Iterative Clipping and Error Filtering Methods for Efficient PAPR Reduction in 5G and Beyond
Selahattin Gökçeli;Toni Levanen;Taneli Riihonen;Juha Yli-Kaakinen;Alberto Brihuega;Matias Turunen;Markku Renfors;Mikko Valkama
Publication Year: 2021,Page(s):48 - 66
(3018 Kb)

Application-Based Coexistence of Different Waveforms on Non-Orthogonal Multiple Access
Mehmet Mert Şahin;Hüseyin Arslan
Publication Year: 2021,Page(s):67 - 79
(2521 Kb)

Special Issue on Edge Intelligence for Immersive Communications
Zheng Chang;Geyong Min;Xiaojiang Du;Zhiwei Zhao;Di Zhang
Publication Year: 2021,Page(s):80 - 81
(101 Kb)

Special Issue on: Optical Wireless Communications for Emerging Connectivity Requirements
Mohammad Ali Khalighi;Zabih Ghassemloo;Mohamed-Slim Alouini;Steve Hranilovic;Stanislav Zvanovec
Publication Year: 2021,Page(s):82 - 86
(303 Kb)

KeyShield: A Scalable and Quantum-Safe Key Management Scheme
Mohammed Y. Al-darwbi;Ali A. Ghorbani;Arash Habibi Lashkari
Publication Year: 2021,Page(s):87 - 101
(1976 Kb)

Adaptive Intrusion Detection in the Networking of Large-Scale LANs With Segmented Federated Learning
Yuwei Sun;Hiroshi Esaki;Hideya Ochiai
Publication Year: 2021,Page(s):102 - 112
(3163 Kb)

Rapid Prototyping and Validation of FS-FBMC Dynamic Spectrum Radio With Simulink and ZynqSDR
Kenneth W. Barlee;Robert W. Stewart;Louise H. Crockett;Neil C. MacEwen
Publication Year: 2021,Page(s):113 - 131
(5310 Kb)

Applying Deep-Learning-Based Computer Vision to Wireless Communications: Methodologies, Opportunities, and Challenges
Yu Tian;Gaofeng Pan;Mohamed-Slim Alouini
Publication Year: 2021,Page(s):132 - 143
(1996 Kb)

Intelligent Surface-Aided Transmitter Architectures for Millimeter-Wave Ultra Massive MIMO Systems
Vahid Jamali;Antonia M. Tulino;Georg Fischer;Ralf R. Müller;Robert Schober
Publication Year: 2021,Page(s):144 - 167
(1896 Kb)

Efficient Downlink Power Allocation Algorithms for Cell-Free Massive MIMO Systems
Sucharita Chakraborty;Özlem Tuğfe Demir;Emil Björnson;Pontus Giselsson
Publication Year: 2021,Page(s):168 - 186
(1608 Kb)

Performance Analysis of Indoor Communication System Using Off-the-Shelf LEDs With Human Blockages
Anand Singh;Gourab Ghatak;Anand Srivastava;Vivek Ashok Bohara;Anand Kumar Jagadeesan
Publication Year: 2021,Page(s):187 - 198
(2388 Kb)

Cross-Layer MAC/Routing Protocol for Reliable Communication in Internet of Health Things
Umer F. Abbasi;Noman Haider;Azlan Awang;Komal S. Khan
Publication Year: 2021,Page(s):199 - 216
(9830 Kb)

Fast Multiple Fault Detection and Exclusion (FM-FDE) Algorithm for Standalone GNSS Receivers
Kewei Zhang;Panos Papadimitratos
Publication Year: 2021,Page(s):217 - 234
(3402 Kb)

A Novel Downlink IM-NOMA Scheme
Abdullateef Almohamad;Mazen O. Hasna;Saud Althunibat;Khalid Qaraqe
Publication Year: 2021,Page(s):235 - 244
(1339 Kb)

A Distributed Pulse-Based Synchronization Protocol for Half-Duplex D2D Communications
Onur Karatalay;Ioannis Psaromiligkos;Benoit Champagne;Benoit Pelletier
Publication Year: 2021,Page(s):245 - 261
(2473 Kb)

A Deep Learning Based Modeling of Reconfigurable Intelligent
Surface Assisted Wireless Communications for Phase Shift
Configuration

Baoling Sheen;Jin Yang;Xianglong Feng;Md Moin Uddin
Chowdhury

Publication Year: 2021,Page(s):262 - 272
(2385 Kb)