

Smart Homes: Artificial Intelligence in the Home and Beyond

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Dr. Diane Cook is a Huie-Rogers Chair Professor in the School of Electrical Engineering and Computer Science at Washington State University. She received her B.S. from Wheaton College in 1985 and her M.S. and Ph.D. from the University of Illinois in 1987 and 1990, respectively. Her areas of interest include artificial intelligence, machine learning, parallel algorithms, and smart environments. Dr. Cook is the head of the CASAS smart home project at Washington State University. Her research has received over \$16 million in support from federal and industrial funding including NSF, NIH, DARPA, NASA, USAF, NRL, and industrial sponsors. Her work is published in over 320 papers and in three books including a book on Smart Environments published by Wiley in 2004.

Dr. Cook is the recipient of an NSF Research Initiation Award and an NSF Career Award, was elected an IEEE Fellow, and has received numerous research and teaching awards. She serves on the editorial board for six international journals and has organized 15 international conferences.

Smart Homes: Artificial Intelligence in the Home and Beyond

Advances in the fields of pervasive computing and sensor networks have made the dream of

smart environments a reality. However, smart homes are still complex systems that only experts can install, manage, and use. This talk describes the CASAS "smart home in a box" system that we are designing at Washington State University. Using artificial intelligence techniques we have designed a smart home that can be easily installed, that recognizes activities and builds behavioral models with no training, and that can be used to monitor health, to promote energy efficiency, and to automate control. The technologies will be highlighted with examples from our testbed smart homes that are found on campus, in private homes, and in assisted care apartments.

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