Graduate Seminar (EEL 6936)
Department of Electrical Engineering
http://ee.eng.usf.edu/Grad_Seminar

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Engineering Building II (ENB) Room 118

On Direct Communication Methods for IoT Applications

Abstract

We are at a turning point in society where the world around us is deeply embedded with smart objects that are wirelessly connected to each other and eventually through the Internet. IoT is attracting huge interest from both academia and industry, and most of the things in our life are likely to get connected in the near future. At the core of the current IoT technologies, is the communication through radio frequency, such as WiFi and Bluetooth. With the prevalence of connected devices, our reliance on the radio frequency communication is becoming significant. However, the radio spectrum is extremely crunched and its dependability becomes a growing issue. Therefore, we argue that it is important to diversify communication methods. In this talk, we will discuss alternative and complimentary wireless communication methods, including radio frequency, infrared, and visible lights, through the IoT applications we have built with those. We will compare their cons and pros from various perspectives, and provide insights for a better connected world.

Biography

Dr. Baek-Young Choi is an Associate Professor in the Department of Computer Science and Electrical Engineering at the University of Missouri - Kansas City. She received her Ph.D. in Computer Science and Engineering from the University of Minnesota, Twin Cities. She held positions at Sprint Advanced Technology Labs, and the University of Minnesota, Duluth, as a post-doctoral researcher, and as a 3M McKnight distinguished visiting assistant professor, respectively. She has been a fellow of the U.S. Air Force Research Laboratory's Visiting Faculty Research Program (AFRL-VFRP), and Korea Telecom - Advance Institute of Technology (KT-AIT). Her research interests lie in the broad area of algorithm and system development for diverse types of networks, especially in resource management and network monitoring. She has authored the book, 'Scalable Network Monitoring in High Speed Networks', and co-edited the book, 'High Performance Cloud Auditing and Applications.' She has served on NSF and DOE panels multiple times and is currently an Associate Editor for the Elsevier Journal of Computer Networks and Springer Journal of Telecommunication Systems. She has also served as a general chair, technical program chair, technical program committee member, organizing committee member, session chair, and reviewer for many international conferences and workshops. Her research has been supported by several agencies including NSF, Sprint-Nextel, AFRL, U. Missouri System, and UMKC. She is a senior member of ACM and IEEE, and a member of IEEE Women in Engineering.