

Department of Mathematics & Statistics
STATISTICS SEMINAR

Presents

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Compressive Human Sensing

Abstract

As the sensor networks and ubiguitous computing devices applied to serve and response to humans, the need to sense people is becoming more pressing. Human sensing covers the issues of detection, localization, count estimation, identification, and activity recognition. Many applications in homeland security, energy efficient building, and healthcare require human sensing based on people's behavioral traits. Conventional approaches typically use video cameras, which could incur high data throughput and computational costs, and cannot protect privacy. This presentation provides a low-cost, low-data-throughput, fast-response solution for behavioral biometrics analysis based on wireless compressive sensing systems. Such systems consist of a variety of low cost sensors such as pyroelectric infrared sensor, fiber-optic sensor, laser sensor, acoustic sensor, and so on. Integrated with compressive binary sensing technology, these systems can perform human sensing impressively.

Biography

Dr. Qingquan Sun is currently an associate professor in the School of Computer Science and Engineering at California State University San Bernardino, San Bernardino, 92407, USA. He received the Ph.D. degree in the field of Electrical and Computer Engineering at The University of Alabama, Tuscaloosa, AL, USA in 2013. Dr. Sun's research interests include intelligent sensing, machine learning and data sciences in cyber-physical systems. He has published around 30 journal/conference papers and book chapters in these research fields. He also has led three NSF projects. Dr. Sun's research has been supported by U.S. NSF, U.S. Air Force research lab, and other resources. As an active scholar, Dr. Sun has served as an associate editor for three international journals, a chair for EAI MLICOM international conference, and a reviewer for eight IEEE transactions and journals.