

Title: Combating Uncertainties in Cyber-Physical Systems

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Abstract:

One key challenge underlying the design of many cyber-physical systems is to ensure reliable operations in the presence of various sources of uncertainties. To combat the uncertainties, two broad categories of approaches can be adopted, namely, reliability by design and reliability by learning and adaptation. In this talk, we present case studies in the context of civil structural monitoring and medical device plug-n-play and demonstrate how these principles can be translated into novel algorithms and sound engineering practices in addressing reliability concerns in real-world applications.

Short Biography:

Rong Zheng received her Ph.D. degree from the Dept. of Computer Science, University of Illinois at Urbana-Champaign and earned her M.E. and B.E. in Electrical Engineering from Tsinghua University, P.R. China. She is currently an associate professor at the Dept. of Computer Science, University of Houston, and the director of the wireless system research lab. Rong Zheng received the University of Houston research excellence award in 2010, and the National Science Foundation CAREER Award in 2006. She is presently a member of IEEE Computer Society and ACM. Her research interests include network monitoring and diagnosis, cyber physical systems, and sequential learning and decision theory.