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香港中文大學
The Chinese University of Hong Kong

Institute of Theoretical Computer Science and Communications

IE - ITCSC Joint Seminar

Binary Independent Component Analysis and Its Applications

By
Dr. Rong Zheng, Associate Professor
Department of Computer Science, University of Houston

September 15, 2011, Thursday
2:00pm – 3:00pm
Room 1009, William. M.W. Mong Engineering Building, CUHK

Abstract: In many real-world scenarios, independent latent processes manifest through binary OR mixtures that are directly observable. Examples are losses of probe messages at end hosts in communication networks, spectrum occupancy due to heterogeneous wireless technologies, primary user activities detected by distributed spectrum monitors, and targets observed by low-end sensor array. In this talk, I present the framework and algorithms of binary independent component analysis (bICA), and demonstrate their applicability through practical applications in medical diagnosis, multi-cluster assignment, Internet tomography and network resource management.

Biography: Rong Zheng received her Ph.D. degree from 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 on the faculty of the Department of Computer Science, University of Houston since 2004, currently an Associate Professor. Rong Zheng's research interests include network monitoring and diagnosis, Cyber physical systems, and sequential learning and decision theory. She received the National Science Foundation CAREER Award in 2006, and University Research Award in 2010. She serves on the technical program committees of leading networking conferences including INFOCOM, ICDCS, ICNP, etc; and was the Program chair for the first ACM workshop on medical grade wireless networks. She served as a guest editor for EURASIP Journal on Advances in Signal Processing, Special issue on wireless location estimation and tracking, Elsevler's Computer Communications - Special Issue on Cyber Physical Systems.

******* ALL ARE WELCOME *******

Hosted By: Prof. Minghua Chen
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