

Artificial Intelligence Seminars

Learning to Estimate and Detect in Communication Systems

Speaker Duy H. N. Nguyen, Ph.D. Assistant Professor Department of Electrical and Computer Engineering San Diego State University

Where GMCS-405

When 10:30am-11:30am, December 6th, 2019

Speaker

Duy H. N. Nguyen (Senior Member, IEEE) is an Assistant Professor at the Department of Electrical and Computer Engineering, San Diego State University. He received the B.Eng. from Swinburne University of Technology, Hawthorn, VIC, Australia in 2005, the M.Sc. from University of Saskatchewan, Saskatoon, SK, Canada in 2009 and the Ph.D. from McGill University, Montreal, QC, Canada in 2013. He was a postdoctoral research fellow at INRS-EMT (University of Quebec), The University of Houston and the University of Texas at Austin. His current research interests include resource allocation in wireless networks, signal processing for communications, optimization, game theory and machine learning.

Abstract

Estimation and detection are among the most primitive statistical signal processing tasks in communication systems. The advancements of communication theory in the past few decades have effectively resolved these tasks with rigorous analysis and predictable performance guarantee, especially in Gaussian channels. This is perhaps the reason why the field of communication theory was reluctant in embracing the booming of machine learning. Nevertheless, there has been a lot of interests and publications in the applications of machine learning for communication systems in the past few years. In this talk, I will revisit some of the basics in estimation and detection for communication systems and examine whether machine learning techniques would be the right tools to perform these tasks, especially in non-Gaussian channels. I will then present some of our recent and ongoing research works in this topic.

Host: Dr. Xiaobai Liu Student Organizer: Patrick Perrine (Undergraduate) Web: sdsuai.home.blog