香港浸會大學理學院
HKBU Faculty of Science
50th Anniversary

HKBU Computer Science Department 計算機科學系

Department of Computer Science
Distinguished Lecture 2011 Series

Dimensionality Reduction for Real-Time Autonomous Systems

Prof. Daniel D. Lee B.A. Harvard, Ph.D. MIT

Evan C Thompson Endowed Professor
Raymond S. Markowitz Faculty Fellow
Associate Professor of Electrical and Systems Engineering
University of Pennsylvania

Prof. Lee is currently the Evan C. Thompson Endowed Professor, Raymond S. Markowitz Faculty Fellow, and Associate Professor of Electrical and Systems Engineering at the University of Pennsylvania. He received his B.A. in Physics from Harvard University in 1990, and his Ph.D. in Condensed Matter Physics from the Massachusetts Institute of Technology in 1995. Before coming to Penn, he was a researcher at Bell Laboratories, Lucent Technologies, from 1995-2001 in the Theoretical Physics and Biological Computation departments. He has received the NSF Career Award and the University of Pennsylvania Lindback Award for distinguished teaching; he was a fellow of the Hebrew University Institute of Advanced Studies in Jerusalem, and a foreign affiliate of the Korea Advanced Institute of Science and Technology, and has helped organize the US-Japan National Academy of Engineering Frontiers of Engineering Symposium. His research focuses on understanding the general principles that biological systems use to process and organize information, and on applying that knowledge to build better artificial sensorimotor systems.

Date: March 9, 2011 (Wednesday)
Time: 14:45
Venue: Lecture Theatre 2 (LT2)
Ho Sin Hang Campus, HKBU

Abstract:
How do animals process the tremendous amount of information coming from their senses, in time to take appropriate actions with their muscles? This type of robust sensorimotor processing is still difficult to replicate in artificial systems even with the latest sensors, actuators, and computational power. I will describe some of my lab's recent work on algorithms used to construct real-time robotic systems for perception, locomotion, navigation, exploration and other autonomous behaviors. I will also discuss our recent theoretical work in novel machine learning techniques for dimensionality reduction, and how they can be applied to such systems.

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ALL ARE WELCOME