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THE BIG DATA CHALLENGE FROM MACHINE LEARNING AND PATTERN RECOGNITION PERSPECTIVE

Prof Daniel S Yeung

Basser Seminar Series

ABSTRACT

In this talk we will examine the basic characteristics of the problem induced by the big data scenario. A natural question is: are the existing machine learning and pattern recognition techniques capable of handling pattern classification problem in a big data environment? We will focus our discussion on the deep learning algorithms and explore possible improvement to these algorithms using the localized generalization error model technique.

SPEAKER'S BIOGRAPHY

Daniel S. Yeung (Ph.D., M.Sc., M.B.A., M.S., M.A., B.A.) is a Past President of the IEEE Systems, Man and Cybernetics (SMC) Society and a Fellow of the IEEE. He received the Ph.D. degree in applied mathematics from Case Western Reserve University. In the past, he has worked as an Assistant Professor of Mathematics and Computer Science at Rochester Institute of Technology, as a Research Scientist in the General Electric Corporate Research Center, and as a System Integration Engineer at TRW, all in the United States. He was the chairman of the Department of Computing, The Hong Kong Polytechnic University, Hong Kong, and a Chair Professor from 1999 to 2006. He also served as a visiting Professor in the School of Computer Science and Engineering, South China University of Technology, Guangzhou, China.

His current research interests include neural-network sensitivity analysis, data mining, and fuzzy rough set. He is the Co-EiC of the international Journal on Machine Learning and Cybernetics (Springer). He was the Chairman of IEEE Hong Kong Computer Chapter (91 and 92), an associate editor for both IEEE Transactions on Neural Networks and IEEE Transactions on SMC (Part B), and for the International Journal on Wavelet and Multiresolution Processing. He has served as the President (2008 and 2009), President-Elect (2007), a member of the Board of Governors, Vice President for Technical Activities, and Vice President for Long Range Planning and Finance for the IEEE SMC Society. He co-founded and served as a General Co-Chair since 2002 for the International Conference

on Machine Learning and Cybernetics held annually in China. He also served as a General Co-Chair (Technical Program) of the 2006 International Conference on Pattern Recognition, and 2012, 2013 and 2015 International Conference on Systems, Man and Cybernetics. He is also the founding Chairman of the IEEE SMC Hong Kong Chapter.

His past teaching and academic administrative positions include a Chair Professor and Head at Department of Computing, The Hong Kong Polytechnic University, the Head of the Management Information Unit at the Hong Kong Polytechnic University, Associate Head/Principal Lecturer at the Department of Computer Science, City University of Hong Kong, a tenured Assistant Professor at the School of Computer Science and Technology and an Assistant Professor at the Department of Mathematics, both at Rochester Institute of Technology, Rochester, New York.

He also held industrial and business positions as a Technical Specialist/Application Software Group Leader at the Computer Consoles, Inc., Rochester, New York, an Information Resource Sub-manager/Staff Engineer at the Military and Avionics Division, TRW Inc., San Diego, California, and an Information Scientist of the Information System Operation Lab, General Electric Corporate Research and Development Centre, Schenectady, New York.

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2pm - 3pm ([Add seminar to my diary](#))
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FURTHER INFORMATION

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