THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering
Seminar

Computing and Communication Challenges in Distributed Deep Learning
By
Prof CHI Xiaowen
Department of Computer Science, Hong Kong Baptist University

Date : **22nd May, 2019 (Wed)**
Time : **14:30pm – 15:30pm**
Venue : **Room 833, Ho Sin Hang Engineering Building**
The Chinese University of Hong Kong

Abstract

Deep learning is the state-of-the-art technology that achieves many breakthroughs in a broad range of AI tasks like image classification, object detection, and natural language processing. There are two key factors that lead to the success of deep learning: the availability of huge amount of data, and the fast-growing computing power. However, the development of deep learning is now facing new challenges in both computing and communication technologies. In this talk, we will begin with a review of the recent development of CPUs and GPUs, and the fundamental computational tasks in deep learning and how to optimize them on GPUs. We then discuss the design of distributed deep learning systems which are the driving force for the discovery of very large deep neural network models. Finally, we briefly introduce our recent work published in NeurIPS 2018 workshop, INFOCOM 2019, ICDCS 2019 workshop, and IJCAI 2019, that try to alleviate the communication bottleneck in distributed deep learning systems.

Biography

Prof. Xiaowen Chu received the Bachelor degree in computer science from Tsinghua University, China, in 1999, and the Ph.D. degree in computer science from the Hong Kong University of Science and Technology in 2003. Currently, he is a full professor in the Department of Computer Science, Hong Kong Baptist University. He is the Director of High Performance Cluster Computing Centre. His research interests include distributed and parallel computing, GPU computing, distributed machine learning, cloud computing, and wireless networks. He has won several Best Paper Awards at different international conferences. He has published more than 160 research articles at international journals and conference proceedings. He is serving as an Associate Editor of IEEE Access and IEEE Internet of Things Journal.

** ALL ARE WELCOME **

Host: Prof XING Guoliang (Tel: 3943-8474, Email: guoliang@ie.cuhk.edu.hk)
Enquiries: Information Engineering Dept., CUHK (Tel.: 3943-8385)