



THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering
Faculty Seminar

**Beyond Image Recognition:
Deep Understanding of Structures in the Visual World
by
Professor LIN Dahua**

Department of Information Engineering, The Chinese University of Hong Kong

Date : 25th October, 2019 (Friday)
Time : 11:00am – 12:00pm
Venue : Room 801, Ho Sin Hang Engineering Building
The Chinese University of Hong Kong

Abstract

It goes without saying that the success of deep learning is amazing. The rise of deep learning not only leads to a wave of breakthroughs in traditional AI areas, e.g. speech recognition and computer vision, but also opens up a number of possibilities that are unimaginable before — AI can now play chess games, perform cancer diagnosis, and even drive a car. Despite all such successful stories, the “intelligence” of most deep networks remain rather restrictive — they are essentially doing A to B regression, just that they are doing it particularly well. Over the past five years, I worked with a group of talented students on a series of problems, with an aim to move beyond the aforementioned limitations and thus extend the power of deep models to more application domains. Many of our studies revolve around an important theme, namely, learning deep models from structured data. Particularly, we develop new modeling frameworks for high-resolution images, event photos, structured scenes, activity videos, movies, relational databases, etc. All such data, despite their different natures, have an important aspect in common, that is, they all contain structures, i.e. components related to each other. Analysis of their inherent structures not only gives us deeper insights into these domains, but also results in more effective models and training strategies (e.g. self-supervised training that does not rely on external supervision). In this talk, I will give a high-level review of our efforts and achievements, and share my thoughts and reflections on the underlying problems.

Biography

Dahua Lin is an Assistant Professor at the department of Information Engineering, the Chinese University of Hong Kong. Prof. Lin received the Ph.D. degree from MIT in 2012. Prior to joining CUHK, he served as a Research Assistant Professor at Toyota Technological Institute at Chicago, from 2012 to 2014. His research interest covers computer vision, deep learning, and probabilistic inference, and has published about 100 papers, mostly on top conferences and journals, e.g. CVPR, ICCV, ECCV, NeurIPS, ICML, and T-PAMI. These papers have received about 5000 citations. He has received the best student paper award in NIPS 2010 and the outstanding reviewer awards in ICCV 2009 and ICCV 2011. He has supervised or co-supervised the CUHK team in major international competitions, such as ImageNet, ActivityNet, and MSCOCO, and won multiple awards. He serves as area chairs of ECCV 2018, ACM Multimedia 2018, BMVC 2018, and CVPR 2019, AAAI 2020, and also serves on the editorial board of IJCV.

**** ALL ARE WELCOME ****

Host: Prof Calvin Chan Chun-Kit (Tel: 3943-8354, Email: calvin@ie.cuhk.edu.hk)

Enquiries: Information Engineering Dept., CUHK (Tel.: 3943-8385)