

THE CHINESE UNIVERSITY OF HONG KONG Department of Information Engineering Seminar

My Journey in Large Language Models and Multimodal Models

By

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Date : 6 December 2024 (Friday) Time : 11:30am – 12:15pm Venue : Rm 801, Ho Sin Hang Engineering Building, CUHK

<u>Abstract</u>

Over the past two years, I have been fortunate to have the opportunity to lead various projects to develop large language models and multimodal models. Particularly, I worked with the teams in Shanghai AI Laboratory to develop InternLM, a series of open-source large language models, and InternLM-XComposer, a series of light-weight open-source multimodal models. It is noteworthy that the competition in this domain is extremely intensive, yet our models managed to achieve top-notched performance on a number of benchmarks, with a combination of innovative methods. The development of these models heavily rely on large-scale infrastructure to support massive data processing and the training jobs on thousands of GPUs. In this talk, I will introduce the main challenges in building industry-level systems to support our model development and how we met them. Moreover, I will also share my view of the challenges in the application side as we are striving to find the product-market fit for large generative models.

<u>Biography</u>

Dahua Lin received his Ph.D. from the department of EECS at Massachusetts Institute of Technology in 2012. He received his M.Phil. from the department of Information Engineering at the Chinese University of Hong Kong in 2007, and B.Eng. from the department of Electrical Engineering and Information Science at the University of Science and Technology of China in 2004. He was a research intern at Microsoft Research Silicon Valley, Microsoft Research Redmond, and Microsoft Research Asia, respectively in 2010, 2009, and 2004. He received the Best Student Paper Award at NIPS 2010, and the Outstanding Reviewer Awards at ICCV 2009 and ICCV 2011.

His research spans multiple areas in machine learning, data science, and computer vision. In particular, he is interested in developing new probabilistic models and machine learning techniques for large-scale data analysis, as well as their applications in image and text understanding. He has also worked on a variety of topics in computer vision and pattern recognition before joining CUHK.

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