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THE CHINESE UNIVERSITY OF HONG KONG

Department of Information Engineering

Seminar

Building better machine learning systems: automated design, on-device deployment and resilience to dynamics

By

Prof. WEN Hongkai
University of Warwick, UK

Date : 20 December 2023 (Wednesday)
Time : 2:00pm – 3:00pm
Venue : Rm 801, Ho Sin Hang Engineering Building, CUHK

Abstract
Recently we've learned from many lessons that a functioning and deployable machine learning (ML) system is much more than just a single model or algorithm: one needs to add a lot more ingredients to make it work in the real world. In this talk, I am going to cover some of our recent work towards this overarching goal. I will start by introducing automated design paradigms for deep neural architectures under specific (compute and memory) constraints, and elaborating on possible ways to improve efficiency of the design process. I will then delve into our work on tailoring ML algorithms/models for a unique sensing modality, the event cameras, to achieve on-device real-time human motion analysis/tracking. Finally I will discuss our efforts in optimising fleet distribution of shared e-mobility platforms, a specific form of larger scale ML systems in urban settings, to better cope with real-world dynamics.

Biography
Hongkai Wen is currently an Associate Professor of Computer Science at the University of Warwick, UK. He is a Fellow of the Alan Turing Institute, the UK's national institute for data science and AI. Alongside his academic roles, he holds joint appointments as a Senior Research Scientist at Samsung AI Research Cambridge, working on automated ML and on-device AI. Before that, he did both his postdoctoral and PhD research at Oxford CS.

**** ALL ARE WELCOME ****

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