CMAI: Interface of Math and Artificial Intelligence Seminar
The Chinese University of Hong Kong

This CMAI Interface of Math and AI Seminar is organized by Centre for Mathematical Artificial Intelligence (CMAI), under Department of Mathematics at CUHK.

Date: July 4, 2024 (Thursday)
Time: 16:00~17:30 (Tokyo Time)
Zoom Meeting: 905 330 9693

Efficient and Robust Machine Learning with Tensor Networks
Speaker: Prof. Qibin Zhao
RIKEN AIP

Abstract: Tensor Networks (TNs) are factorizations of high dimensional tensors into networks of many low-dimensional tensors, which have been studied in quantum physics, high-performance computing, and applied mathematics. In recent years, TNs have been increasingly investigated and applied to machine learning and signal processing, due to its significant advances in handling large-scale and high-dimensional problems, model compression in deep neural networks, and efficient computations for learning algorithms. This talk aims to present some recent progress of TNs technology applied to machine learning from perspectives of basic principle and algorithms, novel approaches in unsupervised learning, tensor completion, multi-model learning and various applications in DNN, CNN, RNN and etc.

Bio: Qibin Zhao received the Ph.D. degree in computer science from Shanghai Jiao Tong University, China in 2009. He was a research scientist at RIKEN Brain Science Institute from 2009 to 2017. He joined RIKEN Center for Advanced Intelligence Project as a unit leader (2017 - 2019) and is currently a team leader for tensor learning team. He is also a visiting professor in Tokyo University of Agriculture and Technology. His research interests include machine learning, tensor factorization and tensor networks, computer vision and brain signal processing. He has published more than 200 scientific papers in international journals and conferences and two monographs on tensor networks. He serves as an Action Editor for "Neural Networks", as well as Area Chair for the major ML conference of NeurIPS, ICML.