香港浸會大學
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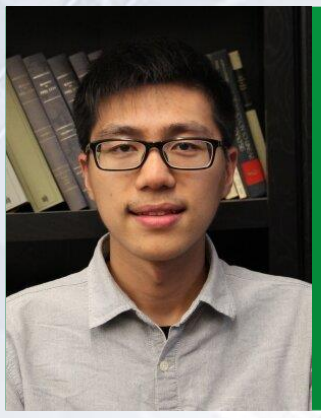
DEPARTMENT OF
COMPUTER SCIENCE
計算機科學系

ONLINE SEMINAR
2023 SERIES

Department of Computer Science



Mr. Yifan Chen

PhD Candidate
The University of Illinois Urbana-Champaign

Register Now

Date: 20 March 2023 (Monday)
Time: 9:30am – 10:30am
Registration: https://bit.ly/cs-ereg

(*Zoom details will only be provided to registrants)

Towards Efficient Machine Learning: A Matrix Approximation Perspective

ABSTRACT

In this talk, I will highlight several recent advancements in reducing the computational cost of large-scale machine learning models. Notably, these models often require intensive matrix operations, such as in Transformers and graph neural networks. My focus will thus be on leveraging statistical structures to improve the efficiency in training and inference. I will present a novel modification of Nyström methods for attention approximation in transformers, based on the kernel structure of attention; also delve into a geometric perspective of graph coarsening, justifying the usage of graph coarsening in graph-level tasks and providing a simple yet effective algorithm to strengthen previous methods.

BIOGRAPHY

Yifan Chen is a fifth-year Ph.D. student in Statistics at the University of Illinois Urbana-Champaign (UIUC). He is broadly interested in developing efficient algorithms for machine learning, encompassing both statistical and deep learning models. He collaborates with Prof. Yun Yang, Prof. Ruoqing Zhu, Prof. Heng Ji, and Prof. Jingrui He during his Ph.D. studies. Before joining UIUC, Yifan earned his B.S. in Statistics from Fudan University in 2018, under the guidance of Prof. Juan Shen.

ENQUIRY

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