ONLINE SEMINAR

When AI meets Spatio-Temporal Data: Concepts, Methodologies, and Applications

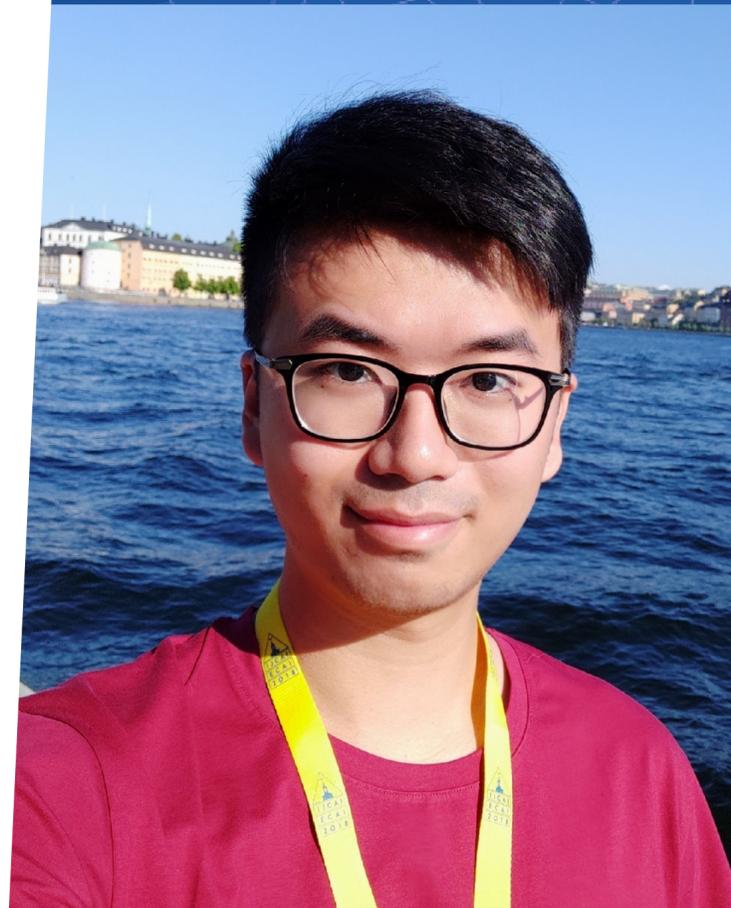Date: 28 February 2023 (Tuesday)

Time: 9:30am - 10:30am

Seminar link: https://cityu.zoom.us/j/91446958735

ABSTRACT

With the rapid advances in new-generation information technologies such as the Internet of Things, 5G, and mobile Internet, Spatio-Temporal (ST) data are growing explosively in urban areas. In contrast to image, text, and voice data, ST data often present unique spatio-temporal characteristics, including spatial distance and hierarchy, as well as temporal closeness, periodicity, and trend. Spatio-Temporal AI is a proprietary AI technology for ST data, where AI meets conventional city-related fields, like transportation, civil engineering, environment, and economy, in the context of urban spaces. This talk first introduces the concept of Spatio-Temporal AI, discussing its general framework and key challenges from the perspective of computer science. Secondly, we classify the applications of spatio-temporal AI into four categories, consisting of modeling ST trajectories, ST grid data, ST graphs, and ST series. We also present representative scenarios in each category. Thirdly, we delineate our recent progress in the methodologies of the above four categories in various applications. Finally, we outlook on the future of spatio-temporal AI, suggesting a few research topics that are somehow missing in the community.

Mr Yuxuan LIANG

GUEST SPEAKER'S PROFILE

Mr Yuxuan Liang is a Research Fellow at School of Computing, National University of Singapore (NUS). He is currently working on the research, development, and innovation of spatio-temporal data mining and AI, with a broad range of applications in smart cities. Prior to that, he obtained his PhD degree at NUS. He published over 30 peer-reviewed papers in refereed journals and conferences, such as KDD, WWW, NeurIPS, ICLR, AAAI, IJCAI and TKDE. Those papers have been cited over 1,900 times (Google Scholar H-Index: 21). He was recognized as 1 out of 10 most innovative and impactful PhD students focusing on data science in Singapore by Singapore Data Science Consortium.

All are welcome