



THE UNIVERSITY OF HONG KONG

DEPARTMENT OF  
COMPUTER SCIENCE

# Research Seminar

## Data Acquisition and Mental Health Improvement for Mental Disorder in Online Social Networks

**Speaker:** Prof. Bay-Yuan Hsu, National Tsing Hua University

**Date:** 18 Jul, 2024 (Thu)

**Time:** 14:30, HKT

**Venue:** RM308, Chow Yei Ching Building, HKU

### **Abstract:**

Real social network datasets with community structures that include complete node and edge information are essential for evaluating various algorithms in Online Social Networks (OSNs) for different applications. For example, such real social network datasets can be used to evaluate the algorithms for link prediction, node classification, community detection, dense subgraph extraction, graph convolution networks, and graph embedding. However, obtaining such real datasets with community structures from OSNs (represented as a graph) is not a simple task for two reasons: the node and edge information of the community should be completely acquired, and the community structure should be ensured at the same time. In this talk, I will talk about the strategies to address two important factors, i.e., user willingness and existence of community structure, to obtain more complete OSN data. Also, in this talk, I am going to discuss how to find some of the graph patterns that related to mental disorders and how to improve patients' mental health status. Our work shows that we can improve the patients' mental health status by reducing these patterns in social networks through network intervention to help mental disorder patients.

### **Bio:**

Bay-Yuan Hsu received the B.S. degree and M.S. degree from the Department of Life Science and Department of Computer Science in National Tsing Hua University, Hsinchu, Taiwan, in 2010 and 2012, respectively. He received the Ph.D. degree from the Department of Computer Science, University of California at Santa Barbara, USA, in 2019. He is an assistant professor in the Department of Industrial Engineering and Engineering Management National Tsing-Hua University, Hsinchu, Taiwan. His research interests include graph mining, big data, machine learning, social networks analytics and bioinformatics.

**All are welcome!**

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