THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

RESEARCH SEMINAR

Towards Generative Causal Explanations for Graph Neural Networks

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Date : 9 December 2022 (Fri)
Time : 3:30 pm - 4:30 pm
Online via ZOOM

Abstract

These years, we have witnessed the increasing attention of deep learning on graphs with graph neural networks (GNNs) from academia and industry. GNNs have exhibited superior performance across various disciplines, such as healthcare and financial systems. These systems are typically required to make critical decisions, such as disease diagnosis in the healthcare systems. With the global calls for accountable and ethical use of artificial intelligence (AI), model explainability has been broadly recognized as one of the fundamental principles of using machine learning technologies in decision-critical applications. However, despite their practical success, most GNNs are deployed as black boxes, lacking explicit declarative knowledge representations. The deficiency of explanations for the decisions of GNNs significantly hinders the applicability of these models in decision-critical settings, where both predictive performance and interpretability are of paramount importance. In this seminar, we will discuss learning to generate explanations for GNNs from the lens of causality.

About the Speaker

Wanyu Lin received her Ph.D. degree from the Department of Electrical and Computer Engineering at the University of Toronto. She received her B.Engr. degree from the School of Electronic Information and Communications, Huazhong University of Science and Technology, China, and her MPhil. degree from the Department of Computing, The Hong Kong Polytechnic University. Her research interests include trustworthy graph machine learning, such as model interpretability, graph learning privacy, and fairness. She has been an associate editor for IEEE Transactions on Neural Networks and Learning Systems (TNNLS). She is a member of IEEE.

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