

Structure-based Large-scale Dynamic Heterogeneous Graphs Processing: Applications, Challenges and Solutions

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ABSTRACT

Wenjie Zhang has given a Keynote Talk at the First Workshop on Graph Learning, associated with The ACM Web Conference 2022, on Monday 25th April 2022. This paper provides a summary of the topics she addressed during her talk.

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SUMMARY

With the advent of a wide spectrum of recent applications, processing heterogeneous graphs has received a great deal of attention from both academic and industry societies. Heterogeneous graphs involve objects (vertices) and links (edges) that are classified into multiple types; examples include bibliography networks, knowledge networks, and user-item networks in E-business. Structure-based analysis reveals the underlying connections and is an important task in processing heterogeneous graphs. However, the large scale and dynamic nature pose great challenges for efficient and scalable processing. This talk will focus on representative path-based and subgraph-based search models over large-scale dynamic heterogeneous graph processing, and discuss the applications, challenges and solutions.

SPEAKER BIOGRAPHY

Wenjie Zhang is a Professor, ARC Future Fellow, Deputy Head of School (Research and Operations) and Head of Data and Knowledge Research Group in School of Computer Science and Engineering, University of New South Wales Australia. Her research interests lie in developing efficient (e.g., real-time) and scalable techniques for data intensive applications. She has published over 180 research papers in leading international journals and conferences. Her research has been supported by 9 Australian Research Council funded projects and several industry projects. Wenjie serves as an Associate Editor for IEEE Transactions on Knowledge and Data Engineering, a senior PC or track chair for VLDB 2023/2022, CIKM 2022/2021/2019/2015, and ICDE 2019, and organization committee

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member or PC member for more than 50 international conferences. Wenjie is the recipient of the Australasian CORE Chris Wallace Research Award in 2019. Her works receive the ACM SIGMOD Research Highlight Award 2021, one of the Best Papers in SIGMOD 2020, ICDE 2013/2012/2010, and several Best (Student) Paper Awards from international conferences.

