Storing and Querying Large-Scale RDF Knowledge Graphs

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Time 2:00pm - 3:00pm
Venue P7510, 7/F, Yeung Kin Man Academic Building

Abstract

With the increasing development of knowledge graphs, the Resource Description Framework (RDF) has been widely used as an expressive data model to represent large-scale knowledge graphs, from online encyclopedia to bioinformatics. How to efficiently store and query large-scale RDF graphs with millions or even billions of triples poses great challenges to the database community, as traditional relational database management systems (or RDBMS) are not designed to manage such big RDF graph data. In this talk, we will first introduce some background knowledge about the RDF graph data model and several graph query languages, and then describe different storage schemes and query mechanisms of RDF graphs. Next, we will discuss our recent research efforts on efficiently storing and querying large RDF graphs using distributed computing frameworks. Finally, possible future research directions will be outlined.

About the Speaker

Dr. Xin Wang is currently an associate professor at School of Computer Science and Technology, Tianjin University, China. He received his Ph.D. degree from
Nankai University, China in 2009, and worked as a CSC sponsored visiting scholar at Griffith University, Australia from Oct. 2015 to Oct. 2016. He is a senior member of China Computer Federation (CCF), a member of Chinese Information Processing Society of China (CIPS), a member of CCF Technical Committee on Databases, a member of CCF Technical Committee on Information Systems, and a member of CIPS Technical Committee on Language and Knowledge Computing. His research interests include knowledge graph data management and learning, large-scale graph databases, and big data processing. He has been the main investigator of two research projects funded by the National Natural Science Foundation of China (NSFC) and two research projects funded by the Natural Science Foundation of Tianjin. He has published more than 70 research papers in various international conferences and journals, including IEEE TPDS, WWW, CIKM, DASFAA, ISWC, ER, WISE, WebDB, etc. He served as a publicity co-chair of DASFAA'18, a workshop co-chair of JIST'16, and PC members of APWeb-WAIM'18, DASFAA'17, JIST'17, WAIM'16, etc.

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