



RESEARCH SEMINAR

Knowledge Graph Construction and Fusion: Challenges and Solutions



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Abstract

With the proliferation of Web sources and the technological advancement in scalable information extraction, various large-scale machine-understandable knowledge graphs (KGs) have been automatically constructed. KGs provide facts about named entities and their relationships, which are crucial for semantic understanding, information retrieval, question answering, recommendation, and other advanced tasks. However, existing approaches to knowledge extraction are still confronted with numerous difficulties, such as ineffective sentence encoding, noisy training data, lack of temporal information, etc. Meanwhile, as different KGs are constructed by different people for different purposes using different data sources, they are usually far from complete yet complementary to each other, calling for knowledge fusion to integrate multiple KGs. In this talk, I will discuss several notable challenges in KG construction and fusion, and share with you some promising solutions we have applied recently.

About the Speaker

Dr Wen Hua currently works as Senior Lecturer and ARC DECRA Fellow at the School of Information Technology and Electrical Engineering, the University of Queensland, Australia. She received her PhD and Bachelor degrees in Computer Science from Renmin University of China in 2015 and 2010, respectively. She was awarded the ARC Discovery Early Career Researcher Award in 2021 and the Advance Queensland Early Career Research Fellowship in 2017, two highly-competitive fellowships for early-career researchers. Her current research interests include information extraction, data mining, natural language processing, spatiotemporal data management, and high-performance query processing. She has published actively in top-tier journals and international conferences such as SIGMOD, PVLDB, ICDE, TKDE, VLDBJ, CIKM, WSDM, WWWJ, etc. She won the Best Paper Award in ICDE 2015.