KNOWLEDGE GRAPH CONSTRUCTION, CURATION AND ITS MACHINE LEARNING APPLICATION

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Abstract

Knowledge graphs (KGs) are playing an increasingly important role in various domains such as search engines, personal assistants, clinic AI, recommender systems, smart city, etc. However, many KG construction issues such as knowledge extraction, knowledge alignment, error detection and correction, are still challenging. In this report, I will introduce the basic concepts and background of KG, some of our recent solutions on automatic knowledge extraction, knowledge integration and error correction based on neural-symbolic integration. At the end, I will briefly present the application of KGs in addressing machine learning problems such as sample shortage.

Speaker bio

Dr. Jiaoyan Chen is a Senior Researcher (Research Co-Investigator) at Department of Computer Science, University of Oxford, working in Data and Knowledge Group which is led by Ian Horrocks FRS. Jiaoyan works on Knowledge Graph, Semantic Web, Knowledge-driven Zero-shot and Transfer Learning, and Neural-symbolic AI, and has published over 50 papers in relevant conferences and journals such as AAAI, IJCAI, WWW, ACL, ISWC, KR, Information Systems, Journal of Web Semantics, Machine Learning, IEEE TGRS and so on. Dr. Chen acts as a PC or senior PC in many top AI conferences such as IJCAI, AAAI, WWW and ISWC. He is also an editor of Journal of Web Semantics and the journal of Data Intelligence. Before going to Oxford, Jiaoyan was a postdoctoral in GIScience in University of Heidelberg. Jiaoyan got his Ph.D. in Computer Science and Technology in Zhejiang University in 2016, jointly supervised by Prof. Zhaohui Wu and Prof. Huajun Chen. He was also a visiting Ph.D. student of Zurich University, supervised by Prof. Daning Hu. Jiaoyan got his Bachelor degree in Computer Science and Technology in Zhejiang University in 2011.

Find out more at https://www.cs.ox.ac.uk/isg/people/jiaoyan.chen/

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