Bowen Jin

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RESEARCH INTERESTS

Natural Language Processing · Graph Mining · Information Retrieval · Recommender System

My research interests lie in modeling unstructured data (e.g., text), structured data (e.g., table, graph) and their intersection. I strive to answer the following questions.
· What structured knowledge do pretrained language models encode?
· How to leverage external/internal structure information to better address NLP tasks?
· How to empower structure learning (e.g., graph learning, table learning) with the associated textual semantics signal?

EDUCATION

University of Illinois at Urbana-Champaign *2021.08 - Present*
Ph.D. Student in Computer Science. Advisor: Prof. Jiawei Han
GPA: 4.0/4.0.

Tsinghua University *2017.09 - 2021.07*
B.S. in Electrical Engineering & Statistics. Advisor: Prof. Yong Li
GPA: 3.9/4.0. Outstanding Graduates.

PROFESSIONAL EXPERIENCE

University of Illinois at Urbana-Champaign *2021.08 - Present*
· Research Assistant. Data Mining Group. Advisor: Prof. Jiawei Han
· Project: Representation Learning on Text-rich Networks with Pretrained Language Models.

Microsoft Research *2022.05 - 2022.08*
· Research Intern. Information and Data Science Group. Mentors: Dr. Chenyan Xiong and Alec Berntson
· Project: Dense Retrieval for Heterogeneous Data.

Microsoft Research *2020.09 - 2021.03*
· Research Intern. Social Computing Group. Mentors: Dr. Zheng Liu and Dr. Xing Xie
· Project: Knowledge-enpowered News Recommendation.

University of California Los Angeles *2020.07 - 2020.09*
· Research Assistant. Data Mining Group. Mentor: Prof. Yizhou Sun
· Project: Kernel-based Graph Pooling for Graph representation Learning.

Tsinghua University *2018.09 - 2020.07*
· Research Assistant. Future Intelligence Lab. Advisor: Prof. Yong Li
· Project: Recommendation with Graph Neural Networks (First-author paper in SIGIR'20)

University of Michigan *2019.07 - 2019.09*
· Research Assistant. Michigan Institute for Data Science. Advisor: Prof. Ji Zhu
· Project: Statistical Network Analysis

SELECTED PUBLICATIONS

<u>Bowen Jin</u>, Yu Zhang, Qi Zhu, and Jiawei Han.
Heterformer: Transformer-based Deep Node Representation Learning on Heterogeneous Text-Rich Networks.
preprint arXiv:2205.10282, 2022

<u>Bowen Jin</u>, Yu Zhang, Yu Meng, and Jiawei Han.
Edgeformers: Graph-Empowered Transformers for Representation Learning on Textual-Edge Networks.
The 11th International Conference on Learning Representations (ICLR 2023).

<u>Bowen Jin</u>, Chen Gao, Xiangnan He, Depeng Jin, and Yong Li.
Multi-behavior Recommendation with Graph Convolutional Networks.
The 43rd ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2020).

AWARDS

2021	Outstanding Graduates (Top 1% in THU)
2021	"Star of Tomorrow" Award, Microsoft Research
2020	China National Scholarship (Top 1% in THU)
2019	China National Scholarship (Top 1% in THU)
2019	Honorable Mention (top 15.35%), Mathematical Contest in Modeling
2018	China National Scholarship (Top 1% in THU)
2017	First Prize, National Olympiad in Mathematics in Provinces

TECHNICAL STRENGTHS

Skills	Machine Learning, Natural Language Processing, Language Modeling, Graph Mining, Weakly Supervised Learning, Unsupervised Learning, Information Retrieval
Programming Languages	Python, C/C++, MATLAB, R, Linux, Markdown, Shell, SQL
Machine Learning Packages	PyTorch, Keras, HuggingFace Transformers, Scikit-learn, PyTorch-Geometric, Deep Graph Library
Tools	Bash, LaTeX, Git