Kangfei Zhao

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EDUCATION

Ph.D.,   Aug. 2014 - Jun. 2019
Department of Systems Engineering and Engineering Management
The Chinese University of Hong Kong
Advisor: Prof. Jeffrey Xu Yu
Dissertation: SQL-based Graph Analytics and Machine Learning

Bachelor of Engineering,   Aug. 2010 - Jun. 2014
School of Computer Science and Technology
University of Science and Technology of China

RESEARCH INTERESTS

ML/DL for Graphs and Database System, In-Databases ML
Graph Analytics, Graph Data Management, Graph Algorithms

WORKING EXPERIENCE

- *(Tenure-track) Professor*   Feb. 2023 - present
  Beijing Institute of Technology,
  School of Computer Science, Beijing, China

- *Senior Researcher*   Dec. 2021 - Jan. 2023
  Tencent AI Lab, ML Center, Shenzhen, China

- *Postdoctoral Fellowship*   Nov. 2019 - Nov. 2021
  The Chinese University of Hong Kong

- *Research Intern*   Jun. 2018 - Dec. 2019
  Tencent AI Lab, ML Center, Shenzhen, China   Advisor: Dr. Yu Rong

SELECTED PUBLICATIONS

- Shuheng Fang, **Kangfei Zhao***, Guanghua Li, Jeffrey Xu Yu. Community Search: A Meta-Learning Approach *IEEE ICDE 2023*

- **Kangfei Zhao**, Jeffrey Xu Yu, Qiyan Li, Hao Zhang, Yu Rong. Learned Sketch for Subgraph Counting: A Holistic Approach. *Springer VLDB Journal 2023*

- **Kangfei Zhao**, Jeffrey Xu Yu, Zongyan He, Rui Li, Hao Zhang. Lightweight and Accurate Cardinality Estimation by Neural Network Gaussian Process. *ACM SIGMOD 2022*

- **Kangfei Zhao**, Jeffrey Xu Yu, Hao Zhang, Qiyan Li, Yu Rong. A Learned Sketch for Subgraph Counting. *ACM SIGMOD 2021*

- **Kangfei Zhao**, Zhiwei Zhang, Yu Rong, Jeffrey Xu Yu, Junzhou Huang. Finding Critical Users in Social Communities via Graph Convolutions. *IEEE Trans. on Know. and Data Eng. (TKDE), 2021*

- **Kangfei Zhao**, Jiao Su, Jeffrey Xu Yu, Hao Zhang. SQL-G: An SQL Approach For Graph Analytics on Distributed Graph Processing Systems. *IEEE Trans. on Know. and Data Eng. (TKDE) 2019*

- **Kangfei Zhao** and Jeffrey Xu Yu. All-in-One: Graph Processing in RDBMSs Revisited. *ACM SIGMOD 2017*

- **Kangfei Zhao** and Jeffrey Xu Yu. Graph Processing in RDBMSs. *IEEE Data Engineering Bulletin 2017*

- **Kangfei Zhao**, Jeffrey Xu Yu, Zongyan He, Yu Rong. Learning with Small Data: Subgraph Counting Queries. *Springer DASFAA 2023 (short paper)*
- **Kangfei Zhao**, Jeffrey Xu Yu, Yu Rong, Ming Liao, Junzhou Huang. Towards Expectation-Maximization by SQL in RDBMS. *Springer DASFAA 2021*
- **Kangfei Zhao**, Shengcai Liu, Yu Rong, Jeffrey Xu Yu. Towards Feature-free TSP Solver Selection: A Deep Learning Approach. *IEEE IJCNN 2021*
- **Kangfei Zhao**, Yu Rong, Jeffrey Xu Yu, Wenbing Huang, Junzhou Huang, Hao Zhang. Graph Ordering: Towards the Optimal by Learning. *Springer WISE 2021 (invited paper)*
- Jianheng Tang, Weiqi Zhang, Jiajin Li, **Kangfei Zhao**, Fugee Tsung, Jia Li. Robust Attributed Graph Alignment via Joint Structure Learning and Optimal Transport. *IEEE ICDE 2023*
- Chengzhi Piao, Tingyang Xu, Xiangguo Sun, Yu Rong, **Kangfei Zhao**, Hong Cheng. Computing Graph Edit Distance via Neural Graph Matching. *VLDB 2023*
- Lingling Zhang, Zhiwei Zhang, Guoren Wang, Ye Yuan, **Kangfei Zhao**, Efficiently Counting Triangles for Hypergraph Streams by Reservoir-based Sampling. *IEEE Trans. on Know. and Data Eng. (TKDE), 2023*
- Jianheng Tang, **Kangfei Zhao**, Jia Li, A Fused Gromov-Wasserstein Framework for Unsupervised Knowledge Graph Entity Alignment. *Submitted to ACL, 2023*
- Hao Zhang, Qiyan Li, **Kangfei Zhao**, Jeffrey Xu Yu, Yuanyuan Zhu. How Learning Can Help Complex Cyclic Join Decomposition. *IEEE ICDE 2022 demo track*
- Hao Zhang, Jeffrey Xu Yu, Yikai Zhang, **Kangfei Zhao**. Parallel Query Processing: To Separate Communication from Computation. *ACM SIGMOD 2022*
- Yuli Jiang, Yu Rong, Hong Cheng, Xin Huang, **Kangfei Zhao** and Junzhou Huang, Query Driven-Graph Neural Networks for Community Search: From Non-Attributed, Attributed, to Interactive Attributed. *VLDB 2022*
- Hao Zhang, Jeffrey Xu Yu, Yikai Zhang, **Kangfei Zhao**, Hong Cheng. Distributed Subgraph Counting: A General Approach. *VLDB 2020*
- Jia Li, Jianwei Yu, Jiajin Li, Honglei Zhang, **Kangfei Zhao**, Yu Rong, Hong Cheng, Junzhou Huang. Dirichlet Graph Variational Autoencoder. *NeurIPS 2020*
- Weiguo Zheng, Hong Cheng, Lei Zou, Jeffrey Xu Yu, **Kangfei Zhao**. Interactive Natural Language Question Answering Over Knowledge Graphs. *Information Sciences 2019*
- Weiguo Zheng, Hong Cheng, Lei Zou, Jeffrey Xu Yu, **Kangfei Zhao**. Natural Language Question/Answering: Let Users Talk with the Knowledge Graph. *ACM CIKM 2017*
- Yiqiang Yi, Wan Xu, **Kangfei Zhao**, Le Ou-Yang, Peilin Zhao. Predicting Protein-Ligand Binding Affinity with Equivariant Line Graph Network. *Preprint*

SKILLS

- **Programming**: Proficient in C/C++, Python, Scala, SQL/PL-SQL, MatLab, and experienced on Java, JavaScript, PHP, Ruby.
- **Data Processing**: Apache Spark, Hadoop, Tensorflow, PyTorch.
- **Databases**: PostgreSQL, IBM DB2, Oracle 11g/12c, MySQL/MariaDB.

SELECTED AWARDS

- ACM SIGMOD Student Travel Award   2017
- Outstanding Graduates of USTC   2014
- Google China Anita Borg Scholarship   2013
- Outstanding Student Scholarship of Tencent Inc.   2012

ACADEMIC SERVICES

- Reviewer of *IEEE TKDE, IEEE TPAMI, Info. Sci.*
- PC member of *DASFAA'20, DASFAA'23, WSDM'22, PAKDD'21, PAKDD'22, VLDB'22, VLDB'24, KDD'22, KDD'23 CIKM'22, ICDE'23*
- Sub-reviewer of *VLDB'18, VLDB'23 CIKM'18, KDD'19, KDD'20, WSDM'20, WSDM'21, CIKM'20, CIKM'21, ICDE'20, ICDE'21, ICDM'21, WebConf'20, WebConf'21, WebConf'22, WebConf'23, SDM'20, SSDT'21.*

MENTORED STUDENT

- Shuheng Fang, *Ph.D. student,*
  The Chinese University of Hong Kong   Aug. 2020 - present
- Liming Wu, *Undergraduate, Intern@Tencent AI Lab*
  Shandong University   Sep. 2022 - present
- Jianheng Tang, *Ph.D. student, Intern@Tencent AI Lab*
  Hong Kong University of Sci. and Tech. (Guangzhou)   May. 2022 - Jan. 2023