Kaiqiang Yu

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EDUCATION

Doctor of Philosophy — **Nanyang Technological University, Singapore**
School of Computer Science and Engineering — *2019.07 - 2023.11, Advisor: Cheng LONG*

Bachelor of Engineering — **Shandong University, China**
School of Software — *2014 - 2018*

RESEARCH INTEREST

Cohesive Subgraph Search, Graph Data Mining, Graph Algorithms.

RESEARCH EXPERIENCE

Research Fellow — **Nanyang Technological University, Singapore**
College of Computing and Data Science — *02.2024 - Now*
Advisor: Cheng LONG

Research Intern — **The University of Hong Kong**
Department of Computer Science — *07.2017 - 06.2018*
Topic: Densest Subgraph Discovery — Advisor: Prof. Reynold Cheng and Prof. Yixiang Fang

PUBLICATIONS

*** indicates Kaiqiang as the corresponding author**

1. Shuohao Gao, **Kaiqiang Yu***, Shengxin Liu, Cheng Long, *"Maximum k-Plex Search: An Alternated Reduction-and-Bound Method"*, Proceedings of the VLDB Endowment (**PVLDB**), 2025.
2. **Kaiqiang Yu**, Cheng Long, *"Fast Maximal Quasi-clique Enumeration: A Pruning and Branching Co-Design Approach"*, Proceedings of ACM International Conference on Management of Data (**SIGMOD**), 2024.
3. Kaixin Wang, **Kaiqiang Yu***, Cheng Long, *"Efficient k-Clique Listing: An Edge-Oriented Branching Strategy"*, Proceedings of ACM International Conference on Management of Data (**SIGMOD**), 2024.
4. Shuohao Gao, **Kaiqiang Yu**, Shengxin Liu, Cheng Long, *"On Searching Maximum Directed (k,l)-Plex"*, IEEE International Conference on Data Engineering (**ICDE**), 2024.
5. **Kaiqiang Yu**, Cheng Long, *"Maximum k-Biplex Search on Bipartite Graphs: A Symmetric-BK Branching Approach"*, Proceedings of ACM International Conference on Management of Data (**SIGMOD**), 2023.
6. **Kaiqiang Yu**, Cheng Long, Shengxin Liu, Da Yan, *"Efficient Algorithms for Maximal k-Biplex Enumeration"*, Proceedings of the 48th ACM SIGMOD International Conference on Management of Data (**SIGMOD**), 2022.
7. **Kaiqiang Yu**, Cheng Long, P Deepak, Tanmoy Chakraborty, *"On Efficient Large Maximal Biplex*

Discovery (extended abstract)", IEEE International Conference on Data Engineering (**ICDE**), 2022.
8. **Kaiqiang Yu**, Cheng Long, P Deepak, Tanmoy Chakraborty, *"On Efficient Large Maximal Biplex Discovery"*, IEEE Transactions on Knowledge and Data Engineering (**TKDE**), 2021.
9. **Kaiqiang Yu**, Cheng Long, *"Graph Mining Meets Fake News Detection"*, Data Science for Fake News, Springer (book chapter), 2021.
10. Yixiang Fang, **Kaiqiang Yu**, Reynold Cheng, Laks V.S. Lakshmanan, Xuemin Lin, *"Efficient Algorithms for Densest Subgraph Discovery"*, Proceedings of the VLDB Endowment (**PVLDB**), 2019.
11. Jinglian He, **Kaiqiang Yu**, Yuanming Shi, Yong Zhou, Wei Chen, Khaled B Letaief, *"Reconfigurable intelligent surface assisted massive MIMO with antenna selection"*, IEEE Transactions on Wireless Communications (**TWC**), 2021.
12. Jinglian He, **Kaiqiang Yu**, Yuanming Shi, *"Coordinated passive beamforming for distributed intelligent reflecting surfaces network"*, IEEE 91st Vehicular Technology Conference (**VTC**), 2020.
13. Jinglian He, **Kaiqiang Yu**, Yong Zhou, Yuanming Shi, *"Reconfigurable Intelligent Surface Enhanced Cognitive Radio Networks"*, IEEE 91st Vehicular Technology Conference (**VTC**), 2020.
14. Jinglian He, Min Fu, **Kaiqiang Yu**, Yuanming Shi, *"Phase Retrieval via Difference of Convex Programming"*, IEEE 91st Vehicular Technology Conference (**VTC**), 2020.
15. **Kaiqiang Yu**, Jinglian He, Yuanming Shi, *"Stochastic submodular maximization for scalable network adaptation in dense Cloud-RAN"*, IEEE International Conference on Communications (**ICC**), 2019.

SELECTED AWARDS

- SIGMOD Student Travel Award (2023)
- NTU Research Scholarship (2019-2023).
- China National Scholarship (2015, 2016).

RESEARCH SERVICE

Conference Program Committee Members
- ACM SIGMOD Availability and Reproducibility Committee: 2023

External Reviewer
- 2024: SIGMOD
- 2023: SIGMOD
- 2022: ICDE
- 2021: ICDE, CIKM (Demo), SSTD, SDM, BigData
- 2020: IJCAI, CIKM

Journal Reviewer: TODS, TKDE

TEACHING ASSISTANT

Graduate Courses
- SD6103-DATA SYSTEMS: 2023 Spring, 2023 Fall.

Undergraduate Courses
- CZ/CE4031-Database System Principles: 2022 Fall.
- CX2101-Algorithm Design and Analysis: 2021 Fall.
- CE1015-Introduction to Data Science and Artificial Intelligence: 2020 Spring.
- CZ/CE2005-Operating Systems: 2019 Fall, 2020 Fall.