Zitan **Sun**

Major in database management

+86 15072485804 @ zitansun@hkbu.edu.hk

I received the PhD degree from the Department of Computer Science at Hong Kong Baptist University, Hong Kong, China in 2024. My research interests involve database management and data mining on graphs.

Education

2020/01 – 2024/08	**PhD** in Computer Science, *Hong Kong Baptist University* (**HKBU**), Hong Kong, China *Supervisor : Dr. Huang Xin*
2015/09 – 2019/06	**Bachelor** of Electronics and Information Engineering, *Huazhong University Of Science And Technology* (**HUST**), Hubei, China
2023/07 – 2023/09	Visiting Research PhD Student in Computer Science and Engineering, *Nanyang Technological University* (**NTU**), Singapore *Supervisor : Dr. Long Cheng*

Research Interests

Database management, Data Mining, Graph theory, Design and analysis of algorithms, Dense subgraph identification and search. The work published in ICDE 2024 investigates how to insert edges into a graph to maximize the k-truss under limited budget conditions. The paper published on SIGMOD 2023 mainly studies the maintenance of k-truss using onion layers on dynamic graphs, which enables updates on large graphs to be completed in a short time. The work published on WWW 2021 investigates how to index and query k-truss on uncertain graphs, which utilizes the relationship between trusses to accelerate calculations. I'm also interested in some classic graph algorithms, such as shortest path search and densest subgraph search.

Publications

- **Zitan Sun**, Xin Huang, Jianliang Xu, Francesco Bonchi, Lijun Chang.
  "Probabilistic Truss Decomposition on Uncertain Graphs : Indexing and Dynamic Maintenance".
  ACM Transactions on Database Systems (**TODS '24**, Accepted), 2024.
- **Zitan Sun**, Xin Huang, Chengzhi Piao, Cheng Long, Jianliang Xu.
  "Adaptive Truss Maximization on Large Graphs : A Minimum Cut Approach".
  The IEEE International Conference on Data Engineering (**ICDE '24**), Pages 3270-3282, 2024.
  https://doi.org/10.1109/ICDE60146.2024.00253.
- **Zitan Sun**, Xin Huang, Qing Liu , Jianliang Xu.
  "Efficient Star-based Truss Maintenance on Dynamic Graphs".
  Proceedings of the ACM on Management of Data (**SIGMOD '23**), Vol. 1, No. 2, Article 133, 2023.
  https://doi.org/10.1145/3589278.
- **Zitan Sun**, Xin Huang, Jianliang Xu, Francesco Bonchi.
  "Efficient Probabilistic Truss Indexing on Uncertain Graphs".
  Proceedings of the Web Conference (**WWW '21**), Pages 354–366, 2021.
  https://doi.org/10.1145/3442381.3449976.
- Xin Sun, Xin Huang, **Zitan Sun**, Di Jin.
  "Budget-constrained Truss Maximization over Large Graphs : A Component-based Approach".
  Proceedings of the 30th ACM International Conference on Information & Knowledge Management (**CIKM '21**), Pages 1754–1763, 2021.
  https://doi.org/10.1145/3459637.3482324.

Talks

May 17, 2024	"Adaptive Truss Maximization on Large Graphs : A Minimum Cut Approach"", conference ICDE'24 presentation in Utrecht, Netherlands.

June 20, 2023	"Efficient Star-based Truss Maintenance on Dynamic Graphs", conference SIGMOD'23 presentation in Seattle, WA, USA.
June 03, 2021	"Efficient Probabilistic Truss Indexing on Uncertain Graphs", conference WWW'21 presentation at Ljubljana, Slovenia, online.

Professional Services

Reviewer : PVLDB 20 (Proceedings of the Very Large Data Base Endowment Inc.), ICDE 22 (IEEE International Conference on Data Engineering), KDD 22, 21, 20, SDM 22, WSDM 23, CIKM 20, DASFAA 22, DSAA 21, PAKDD 21, EDBT 20, APWeb-WAIM 21, TKDE (IEEE Transactions on Knowledge and Data Engineering), WWWJ

Teaching

2021-2022	**Tutor**, COMP3005 : Design and Analysis of Algorithms
2022	**Teaching Assistant**, COMP2017 : Operating Systems
2021	**Teaching Assistant**, COMP4117 : Information Systems : Design and Integration
2020	**Teaching Assistant**, COMP4047/7680 : Internet and World Wide Web
2020	**Teaching Assistant**, COMP7980 : Dynamic Web and Mobile Programming

Languages

English : IELTS : 6.5

Experience

2018/09-2019/06	**Leader** of a 4-person group, a collaboration project between the school organization Dian and CutOut team, port software "CutOut 8" from the Windows platform to the Mac platform. In this project, I learned about the differences between the two platforms and how to communicate with clients. The project completed in 6 months.
2017/09-2018/06	**Member** of a 20-person group, a collaboration project between the school organization Dian and the company Maipu, the project is to process DNS services for routers. My task is to implement the module for transmitting debugging information of backend programs, and program testing. I came into contact with a complete project for the first time, learned to standardize the code, and understood the project framework. The project completed in one year.

Awards

2024/06	Research Performance Award, award by Department of Computer Science, HKBU
2023/09	Research Performance Award, award by Department of Computer Science, HKBU
2023/06	Research Excellence Award at the 26th HKBU-COMP Research Postgraduate Symposium (PG Day)
2023/01	Teaching Assistant Performance Award, TA of course COMP3005 (Design and Analysis of Algorithms), award by Department of Computer Science, HKBU
2022/01	Excellent Teaching Assistant Performance Award, TA of course COMP3005 (Design and Analysis of Algorithms), award by Department of Computer Science, HKBU
2021/10	Research Performance Award, award by Department of Computer Science, HKBU
2021/06	Teaching Assistant Performance Award, TA of course COMP4117 (Information Systems : Design and Integration), award by Department of Computer Science, HKBU

Skills

Programming Skills : **C/C++**, Python, Java, HTML, JS, Verilog, Matlab, R.

Completed Projects : Network socket communication (TCP/UDP), Multi threads/processes programming, Search Engines, Bitcoin, Restaurant ordering system.