Zitan **Sun**

Major in data mining

+86 15072485804 @ 358087924@qq.com

I am currently a 5th-year PhD student in the Department of Computer Science at Hong Kong Baptist University, Hong Kong, China, engaged in Data mining on graphs. My PhD research work involves : indexing (k, γ)-truss on uncertain graphs; maximizing or maintaining k-truss (truss is a definition of dense subgraph). I'm also interested in some classic graph algorithms, such as shortest path search and densest subgraph search. Given a research problem, I would prefer to solve it first by some simple methods. During the coding process, I may find limitations or better algorithms, and then implement them again. After many iterations, I may find satisfactory algorithms. Therefore, I also have rich experience in C++ development.

Education

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

Research Interests

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.

Publications

- **Zitan Sun**, Xin Huang, Chengzhi Piao, Cheng Long, Jianliang Xu, "Adaptive Truss Maximization on Large Graphs : A Minimum Cut Approach", ICDE '24 : the annual IEEE International Conference on Data Engineering, accepted.
- **Zitan Sun**, Xin Huang, Qing Liu , Jianliang Xu, "Efficient Star-based Truss Maintenance on Dynamic Graphs", SIGMOD '23 : Proceedings of the ACM on Management of Data, Vol. 1, No. 2, Article 133, https://doi.org/10.1145/3589278.
- **Zitan Sun**, Xin Huang, Jianliang Xu, Francesco Bonchi, "Efficient Probabilistic Truss Indexing on Uncertain Graphs", WWW '21 : Proceedings of the Web Conference 2021, Pages 354–366, 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", CIKM '21 : Proceedings of the 30th ACM International Conference on Information & Knowledge Management, Pages 1754–1763, https://doi.org/10.1145/3459637.3482324.

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, 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

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)

2021/10 | Research Performance Award, 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.