Yuan Qiu

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Kowloon, Hong Kong

PhD Candidate

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My research interest includes synopsis maintenance, differential Privacy and approximate query processing.

Education

Hong Kong University of Science and Technology, *Hong Kong* 2019 — Present
Ph.D. Candidate in Computer Science and Engineering, Supervised by Prof. Ke Yi
Hong Kong PhD Fellowship

Hong Kong University of Science and Technology, *Hong Kong* 2017 — 2019
M.Phil. in Computer Science and Engineering, Supervised by Prof. Ke Yi
Thesis: Towards Online Aggregation for SPJ Queries
Postgraduate Studentship

Hong Kong University of Science and Technology, *Hong Kong* 2013 — 2017
B.Sc. in Mathematics and Economics, and in Computer Science
First Class Honors
Academic Excellence Awards
Academic Achievement Medal

Stony Brook University, *New York, US* 2016
International Exchange Program

Publications

Yuan Qiu, Yilei Wang, Ke Yi, Feifei Li, Bin Wu and Chaoqun Zhan. "Weighted Distinct Sampling: Cardinality Estimation for SPJ Queries." ACM SIGMOD International Conference on Management of Data (**SIGMOD**), June 2021.

Ziyue Huang, **Yuan Qiu**, Ke Yi and Graham Cormode. "Frequency Estimation Under Multiparty Differential Privacy: One-shot and Streaming." ArXiv abs/2104.01808, 2021.

Yuan Qiu, Serafeim Papadias and Ke Yi. "Streaming HyperCube: A Massively Parallel Stream Join Algorithm." International Conference on Extending DataBase Technology (**EDBT**), March 2019.

Working Experience

Intern Engineer, *Database Optimizer Team* 2021.04 — 2021.08
AnalyticDB, Alibaba Cloud, Hangzhou, China

- Implemented statistics estimation protocols including histogram, KMV summmay and GK summary.
- Designed algorithms for detecting skewness in data and improving cardinality estimation.
- Researched on utilizing feedback information for robust optimization through AI techniques.

Intern Engineer, *Database Optimizer Team* 2019.01 — 2019.05
AnalyticDB, Alibaba Cloud, Hangzhou, China

- Implemented the Wander Join algorithm from SIGMOD 2016 as a join size estimation protocol.
- Designed and implemented algorithms for cardinality estimation for SPJ queries.

Skills

Programming	Python, C++, Java, Scala, Pascal
Tools	Emacs, Latex, Git, Markdown, Unix, Vim
Communication	Chinese, English, Cantonese

Awards

Hong Kong PhD Fellowship, HKSAR	2019 – 2022
Postgraduate Studentship, HKUST	2017 – 2019
Reaching Out Award, HKSAR	2017
Chern-Class Achievement Scholarship, HKUST	2017
First Runner-Up in UG Math Competition, HKUST	2017
First Prize in NOI, China Computer Federation	2009