Qiqian Chen (陈启乾)

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Software engineer focused on ML infrastructure and distributed systems. Experienced in C++/CUDA/Python, GPU systems, asynchronous I/O, sparse parameter offload storage, and performance optimization.

Education

Sep. 2020 – Jul. 2024 | **Tsinghua University** · B.Eng. in Software Engineering
GPA: 3.77 / 4 · Top 30%

Sep. 2022 – Jan. 2023 | **University of Waterloo** · Undergraduate Exchange · Computer Science
Term Average: 89.8 / 100

Work Experience

ML Infra Engineer ByteDance Mar. 2024 – Jul. 2026

Participated in the development of **large-scale distributed recommendation training frameworks**, focusing on performance and reliability:

- **Sparse parameter offload storage:** multi-tier caching, asynchronous I/O, backup, and recovery
- **GPU performance:** CUDA kernels, operator fusion, parallelization, and profiling
- **Heterogeneous computing:** backend abstractions, optimizer implementations, and hardware portability
- **Engineering & reliability:** migration, CI/CD, release workflows, observability, troubleshooting, and reliability improvements

Internship / Research / Projects

GraphAutoTune Undergraduate Thesis Dec. 2023 – Jun. 2024

A high-performance, parameterized, auto-tuning **GPU subgraph matching system**.

- Used C++20 template metaprogramming for code generation and recursive expansion to reduce runtime overhead
- Implemented tunable parallelism with CUDA Cooperative Groups and supported auto-tuning

Research Assistant Intern Tsinghua University, PACMAN Lab Nov. 2021 – Oct. 2022

- Participated in the development of GraphSet, a CPU/GPU high-performance graph mining system published at SC'23
- Improved frequent subgraph mining performance through fine-grained C++/CUDA parallelization

Publications

Tianhui Shi, Jidong Zhai, Haojie Wang, **Qiqian Chen**, Mingshu Zhai, Zixu Hao, Haoyu Yang, Wenguang Chen. 2023. GraphSet: High Performance Graph Mining through Equivalent Set Transformations. *The International Conference for High Performance Computing, Networking, Storage and Analysis (SC'23)*

Tests, Honors and Awards

English Tests	IELTS 7.5, TOEFL 106	Dec. 2022
Honorable Mention, Top 20%	Mathematical Contest in Modeling (MCM/ICM)	May 2022
Comprehensive Excellence Scholarship, Top 20%	Tsinghua University	Nov. 2021
Provincial First Prize	National Olympiad in Informatics in Provinces	Nov. 2018