Ziyue Qiu

Email: qiuziyue@mail.ustc.edu.cn; Tel: (86) 150-1992-7399

Address: University of Science and Technology of China, Hefei, Anhui, 230026, China

Education

University of Science and Technology of China, Anhui, China Sep 2018 - Jul 2022 (expected)

- Bachelor of Engineering in Computer Science and Technology
- Special Class for the Gifted Young (under 16 years old)
- Hua Xia Talent Program in Computer Science and Technology

- GPA (overall): 3.92/4.3 (90.7/100), ranking: 9/251 **(top 4%)**

- **Computer Science Coursework:** Operating Systems (Honors) (92/100), An Introduction to Database Systems (96/100), Graph Theory (95/100), Introduction to Computer Systems (Honors) (90/100), Foundations of Algorithms (95/100), Design Methods of Embedded System (98/100), Web Information Processing and Applications (97/100), Fundamentals of Artificial Intelligence (96/100)
- **Mathematics Coursework:** Mathematical Analysis B1 (91/100), Linear Algebra B1 (94/100), Probability and Statistics B (99/100), Stochastic Processes B (96/100), Function of Complex Variable B (95/100), Equations of Mathematical Physics B (99/100)

Research Experiences

Two-layer caching design for modern software infrastructures

MSR-Asia Jul 2021 - present

Advisors: Professor Cheng Li (USTC), Qi Chen, Mao Yang (Microsoft Research Asia), Xiaosong Ma (Qatar Computing Research Institute, HBKU)

Research Intern, Systems Group, Microsoft Research Asia

USTC Jan 2021 - Jul 2021

Advisors: Professor Cheng Li (USTC), Qi Chen, Mao Yang (Microsoft Research Asia), Xiaosong Ma (Qatar Computing Research Institute, HBKU)

Undergraduate Researcher, Advanced Data Systems Laboratory, USTC

- Identified and reduced serious management costs in software (block) caches caused by lock synchronization and disk-block indexing.
- Proposed a two-layer design that aggressively optimize for cache hit path.
- Achieved a 2-3x speedup in an extensive evaluation on real-world workloads.
- Preparing a **first-author** submission to **OSDI'22**.

Research on *MLIR Toy* Dec 2020 - Jan 2021

Advisor: Professor Yu Zhang (USTC)

- Implemented a compiler pass lowing Toy Dialect to Linalg Dialect and added useful operators.
- Lowered Linalg Dialect to GPU Dialect and openMP ([link]).

Distributed File Systems based on Internet Pages [link]   Feb 2020 - Jun 2020

Advisor: Professor Kai Xing (USTC)

- Implemented a decentralized server for higher availability and containerized it with Docker.
- Used Reed-Solomon Erasure Coding in Go and compiled it into WebAssembly for increased performance.

Activities

Academic & Leadership

- **USTC Linux User Group** | Vice President & CFO   Sep 2020 - Jul 2021
  Organized activities (grew Hackergame from 2,682 participants in 2019 to 3,733 in 2020)
- **University of Texas at Austin International Academy Program**   Jul 2019 - Aug 2019
  Studied listening, writing, and computer courses for four weeks.
- **Teaching Assistant,** *Mathematical Logic*   Mar 2021 - Jul 2021
  An important mathematical foundation course for undergraduates studying computer science.
- **Campus Lecture in High School for USTC** | Speaker   Dec 2018
  Selected from hundreds of students to introduce USTC to my high school.
  Organized the lecture to more than 100 and was praised.

Social & Sports

- **USTC Ultimate Frisbee Team** | CFO & Core Member   Oct 2020 - present
  Entered competitions including Luzhou Hat 2020, Tianjing Open 2021, and Beiyu Jumble 2021.
- **Debate Team, School of Gifted Young, USTC** | Leader   Jun 2019 - May 2020
  Led the team to a top-eight finish in the School Debate Competition.
- **Football Team, School of Gifted Young, USTC** | Manager & Member   Oct 2018 - Oct 2019

Awards & Honors

- China National Scholarship (Top 1%)   2021
- SGY Sihua Scholarship (4/50)   2020
- Hua Xia Talent Program First Prize Scholarship (12/251 students major in CS)   2020
- Zhong Hai Memorial Scholarship (2/200)   2020
- SGY Class of 87 Innovation Scholarship (10/1,000)   2019
- Chen Guoliang Scholarship (Top 10%)   2019

Skills

Programming Skills

- Proficient in programming in Linux (Ubuntu) / Mac OS environment (3-year experience),
- Adept in Assembly Language, C/C++, Python, Verilog (3-year experience),
- Proficient in Java, JavaScript

Language

- **GRE General Test** Verbal 161 (88%), Quantitative 170 (96%), Analytical Writing 3.5 (38%)
- **TOEFL iBT** 110 (Reading 30, Listening 29, Speaking 23, Writing 28)
- **Other Languages:** Mandarin (native)