Edward Qin

425-623-2685 | edwardcq@uw.edu | linkedin.com/in/edward-qin | edward-qin.github.io

Education

University of Washington Seattle, WA

Master of Science in Computer Science *Expected June 2025*

- GPA: 3.97
- Coursework: Distributed Systems, Operating Systems, Database Systems, Quantum Computation, NLP

Bachelor of Science in Computer Science *December 2023*

- Honors: *cum laude* (GPA: 3.92)

Experience

Software Engineer Intern June 2024 – Present

Snowflake *Bellevue, WA*

- Expanded team's insight into query optimization performance by 100% by developing internal analysis tooling on thousands of customer queries across 100 production deployments
- Built internal Python scripts to obtain cost-based optimization plan quality performance and cardinality estimation metrics for customer queries, implemented using random query plan generation in compilation pass in Java
- Took ownership over design by writing design documents with multiple approaches, theoretically analyzing confidence bounds for the metric generated, and testing the metrics empirically on customer queries

Software Engineer Intern June 2023 – September 2023

Snowflake *Bellevue, WA*

- Improved production-level observability on all user-defined functions (UDFs), providing 67% more UDF-level granular statistics on both Java and Python UDFs for internal use
- Designed and implemented stats gathering logic in C++ and incorporated visualization in JavaScript front-end
- Gained valuable insights in industry-level development workflow and version control by writing design docs, implementing code and regression tests, and requesting code reviews

Computational Science Intern July 2022 – September 2022

Pacific Northwest National Laboratory *Richland, WA*

- Developed Python model measuring conductivity within Lithium Sulfur Sold-State Electrolyte Battery Cathodes used to provide insights on microstructure network analysis
- Wrote Python algorithm to generate pore networks and current distributions from conductivity calculations
- Ran 200,000 parallelized simulations to determine most energy efficient particle radius and volume fractions

Teaching Assistant September 2022 – June 2024

University of Washington *Seattle, WA*

- Assisted 1000 students across algorithms (1 quarter) and probability and statistics (5 quarters) courses by leading weekly discussion section, guiding students in office hours and online, and writing homework and test problems
- Achieved proficiency in algorithms and problem-solving and communicated effectively to support students' learning

Research/Projects

Undergraduate Research April 2024 – Present

University of Washington Systems Lab *Seattle, WA*

- Implemented Python event-based network simulation for disaggregated storage data placement scheme
- Measured effects of I/O patterns, SSD congestion, and network congestion on read latency to assess the shortfalls of the storage protocol using the simulation
- Gained valuable research skills in reading papers and understanding the computer networks and storage landscape

Distributed Key-Value Store | *Java* September 2023 – December 2023

- Implemented course project for distributed key-value store that was linearizable, fault-tolerant, dynamically sharded, and supported multi-key cross-shard transactions
- Created design doc for each phase of the project and implemented 2-Phase Commit and MultiPaxos protocols

Technical Skills

Languages: C/C++, Java, Python, SQL, OCaml, Scheme, Ruby, Go, x86, R, TypeScript, JavaScript, HTML/CSS
Frameworks: React, React Native, Spark Java, PyTorch, TensorFlow
Developer Tools: Linux, Git, VSCode, IntelliJ, CLion, PyCharm, Figma, Windows