Edward Qin

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Education

University of Washington Seattle, WA

Master of Science in Computer Science *Expected March 2025*

- GPA: 3.97
- Relevant Coursework: Distributed Systems, Operating Systems, Database Systems, Compilers, Cryptography, NLP

Bachelor of Science in Computer Science *December 2023*

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

Experience

Software Engineer Intern September 2024 – December 2024

Amazon *Seattle, WA*

- Designed system and tradeoffs for Alexa feature to generate on-demand reports of user learning progress, directly demonstrating value of the *Explore with Alexa* service to hundreds of thousands of users
- Led end-to-end integration using prompt engineering and retrieval-augmented generation on LLM architecture; spearheaded design, wrote full-stack architecture and prompt instructions, and tested on device
- Architected full data flow, utilizing AWS DynamoDB for the backend and CloudFront and S3 for the frontend

Software Engineer Intern June 2024 – September 2024

Snowflake *Bellevue, WA*

- Expanded team's insight into optimizer's query plan and cardinality estimation quality for thousands of customer queries across 100 production deployments by building internal Python script to connect to deployments and generate the metrics, and implementing 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 logic to gather stats from execution runtime in C++, pipelined data and incorporated visualization in JavaScript front-end

Teaching Assistant September 2022 – Present

University of Washington *Seattle, WA*

- Assisted 1000 students across algorithms (2 quarters) and probability and statistics (5 quarters) courses by leading weekly discussion section, guiding students in office hours and online, and writing homework and exam problems
- Developed proficiency in algorithms and problem-solving and communicated effectively to support students' learning

Research/Projects

Undergraduate Research April 2024 – June 2024

University of Washington Systems Lab *Seattle, WA*

- Developed Python event-based network simulation to measure effects of I/O patterns, SSD congestion, and network congestion on read latency of disaggregated storage data placement scheme
- Gained hands-on experience reading academic papers to learn complex computer networks and storage systems

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 project phase and implemented core 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 & Tools: AWS, Git, VSCode, IntelliJ, React, React Native, Spark, PyTorch, TensorFlow, Figma
Platforms: Linux, macOS, Windows