Wenbo Qian

☎ *(669)-292-9697* | ✉ *qian.wen@northeastern.edu* | ⌂ *wenboqian.github.io* | ⚲ *San Jose, CA, USA*

Research Interests

Distributed Systems, Operating Systems, Software Reliability, Distributed Training for Deep Learning Models, System Validation

Education

Northeastern University *GPA: 4.0/4.0*   *(Expected) May 2025*
Master of Science in Computer Science

University of California, Berkeley *GPA: 4.0/4.0*   *Jan 2019 - Feb 2019*
Academic Exchange Program Student

Sichuan University *GPA: 3.43/4.0*   *Sept 2017 - June 2021*
B.S. in Computer Science

Work Experience

University of Virginia, *Research Assistant*   *December 2023 - Present*
- Lead the project and collaborate with Prof. Chang Lou, University of Virginia, Dr. Zhen Zhang, Johns Hopkins University, Dr. Yuan Zhou, Cornell University, and Dr. Shaowei Zhu, Princeton University.
- Provide reliability support for Amazon's machine learning developers, inspired by observations made from the collaborating team in AWS.
- Leverage intermediate representations (IR) to reflect the bad changes developers made in distributed training codes or configurations and provide more observability into non-transparent LLM training model's process.
- Design and prototyped static analysis tool for semantic equivalence checking between single device and distributed training of deep learning models.

Google Summer of Code, *Open-Source Contributor*   *May 2024 - Sep 2024*
- Established a functional cloud automation CI/CD pipeline with comprehensive test coverage to enhance capabilities of the cloud infrastructure for Department of Pediatrics at the University of Chicago.

Alibaba Group, *Software Development Engineer*   *July 2021 - June 2023*
- Applied Alibaba Group's distributed middlewares, e.g HSF, RocketMQ to build micro services applications.
- Implemented several efficiency tools to improve software quality and R&D efficiency, including building workflow scheduling platform and real-time code interception of invalid commits.
- Conducted stress-testing including extensive measurement and analysis on performance of QPS,TPS, memory usage, and latency of Aliabab's end-to-end distributed system, to ensure the e-commerce system meets the requirements of high concurrency scenario.

SenseTime, *Software Development Engineer Intern*   *Feb 2021 - May 2021*
- Worked on building a cloud-based automation platform of evaluating machine learning model performance.
- Constructed a dispatch module of precision validation tasks through Redis Stream and the analysis module based on micro services.

NetEase Game, *Software Development Engineer Intern*   *July 2020 - Sept 2020*
- Developed a data comparison tool for comparing Excel sheets, including automatically locating diff cell data between two .csv file of different versions.

Teaching Experience

Teaching Assistant
CS 6510: Advanced Software Engineering   Northeastern University
Topic: Hosting office hours and lectures   *Spring 2024*