Jiheng Zhao

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Education

Carnegie Mellon University **Fall 2025 - Fall 2026**
Master of Science in Information Networking (MSIN) *Pittsburgh, PA*

Tufts University **Fall 2021 - Spring 2025**
Bachelor of Science in Computer Science *Boston, MA*

- Data Structure, Algorithm, Machine Structure & Programming, Computation Theory, Database System, Cloud Computing, OOP & User Interface, Swift Programming

Skills

Programming Languages: C, C++, C#, Java, HTML/CSS, JavaScript/TypeScript, Python, SQL, Swift
Developer Tools/IDE: Eclipse, Xcode, Vite
Cloud/DevOps: AWS, Azure, Docker, Kubernetes, Vercel
Frameworks: React, SwiftUI, LlamaIndex, LangChain, Pandas, NumPy, vLLM
Languages: Mandarin(Native)

Experience

Qihoo 360 Technology **Summer 2024**
Backend Developer in SaaS Development *Beijing, China*

- Built Spring Boot services to ingest and process livestream monitoring data for e-commerce partners (Taobao, JD.com, TikTok), exposing secure REST APIs and persisting to MySQL, boosting data reliability and enabling real-time monitoring at scale
- Deployed StarRocks on VMs and Kubernetes, optimizing partitions, compaction, and pre-computed queries to deliver sub-second analytics, accelerating business reporting, and supporting timely decision-making
- Automated data refresh pipelines in Spring Boot with scheduled API pulls and batch writes, keeping MySQL tables up to date and reducing manual operations, which improved system efficiency and cut maintenance overhead

Projects

Potencia Chatbot | *Python* **Fall 2024**

- Collaborated with nonprofit Potencia to design and develop a chatbot that streamlined training for 75+ volunteer English tutors, reducing onboarding time and improving consistency of lesson plans
- Developed a chatbot using Python, LlamaIndex, and LangChain RAG pipelines, automating tutor training by integrating resources from Potencia's training handbook and improving accessibility of instructional materials
- Implemented secure storage with AWS S3, integrated a Pinecone vector database for semantic search, and deployed APIs via Flask, resulting in reliable server-side operations and scalable performance

FlowerGo iOS App | *Python, Swift* **Summer 2024**

- Led the development of a full-stack iOS educational game with AR functionality, partnering with teammates to deliver an engaging tool that supports environmental science learning
- Deployed a DenseNet-based flower classifier capable of recognizing 200+ species with 95% test accuracy, integrating the model into backend APIs to enable real-time predictions within the app

Roostrover | *Swift, JavaScript* **Fall 2024**

- Built core frontend features in SwiftUI and JavaScript for a home-exchange platform, including account sign-up, search, and a homepage dashboard, which improved user onboarding and enabled seamless property discovery
- Implemented modular UI components in SwiftUI and coordinated with backend services in Node.js/Express, increasing code maintainability and reducing development time for future feature rollouts

Universal Machine | C **Fall 2023**

- Developed a 32-bit Universal Machine in C, virtually simulating registers, segmented memory, and I/O devices to execute 50M instructions within performance benchmarks
- Optimized memory mapping and instruction decoding using Valgrind and GDB (GNU Debugger) for profiling, validated performance and correctness through unit tests covering all 14 UM instructions