Han Xia

hx76@cornell.edu | LinkedIn | Personal Website | GitHub | 607-379-1568

Education

Cornell University, College of Engineering, Ithaca, NY
Master of Engineering in Computer Science **Expected Dec 2023**
BS in Computer Science | GPA: 3.626 **Sep 2019 – Dec 2022**
Awards: Dean's List Fall 2019, Dean's List Fall 2020, Dean's List Spring 2022

Skills

Programming Languages: Python (Proficient, 3 years), Java (Proficient), TypeScript (Proficient)
Software: MySQL, Spring Boot, Git, Redis, Firebase, Google Data Studio, Amazon S3, Angular
Technique: Data Structure & Algorithm, Web Development, Software testing, Socket programming, concurrent programming, CI/CD
Language: English (Full Profession Proficiency)

Experience

Back-End Developer Intern | GoValley **Oct 2022 – Present**

- Designed and developed the backend service for an instant messaging application using **Spring Boot framework**
- Implemented over 20 **REST APIs** to provide users functionalities of user profile management, contact management, chat
- Used **MySQL** as relational data store and used **Amazon S3** as object data store
- Implemented unit tests and integration tests using **JUnit, Mockito, Spring MockMVC** to achieve 85%+ coverage
- Used Aspect Oriented Programming approach to emit API key metrics (TPS, latency, error rate) to **Amazon CloudWatch**
- Added GitHub Actions workflows for continuous integration on each pull request. Created **Amazon CodePipeline** for continuous deployment

Data Science Intern | AMF Media **July - September 2022**

- Collected, ingested, and wrangled data from Instagram and Facebook Graph API Endpoints into **Firebase** NoSQL Database with Python scripts
- Designed and built visual client metrics from data endpoints in Firebase with **Google Data Studio**
- Deployed by AMF in fundraising pitches and received industrial success

Front-End Developer Intern | KUKA Industries Automation **July - Aug 2021**

- Built a progress bar for the update patch for a client-end Digital Studio using **Angular** UI components
- Maintained the login webpage and API for the Digital Studio in collaboration with the backend team
- Contributed to the design decisions of the Digital Studio's toolbox layout

Project

Malicious HTTP Traffic Defending Middleware **Oct - Dec 2022**

- Designed and implemented a middleware that detects malicious activities from an IP address and stops it from reaching application backend servers
- Designed a highly extendable rule framework and implemented rules to detect high-frequency IPs and block requests for invalid URLs
- Used socket programming to build a local TCP servlet which OpenResty sends requests' information to and get verdicts from
- Developed a Nginx Lua module to interact with local TCP servlet
- Optimized high-frequency IP detecting algorithms using Dequeue, which results in low latency of middleware of a few microseconds. The load test showed in every second, the servlet can handle over 1 million requests

OOD GUI-based Game "Pushing Cascading Block" in OCaml **Sep - Dec 2020**

- Developed a GUI-based chill-pixel multiplayer game in which users control different players to push blocks in a cascading way in a random generated map
- Designed and implemented the core algorithm that recursively moves colliding blocks and stops moving blocks when it detects collisions or obstacles
- Conducted team workshop for interface design and milestone planning