

Zhicheng(Louis) Xue

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Education

Tufts University Sept 2019 - May 2023 (can graduate in Dec 2022)

Bachelor of Science in Computer Science - GPA: 3.9

Relevant Courses:

Data Structures, Algorithms, Cloud Computing, Cybersecurity, Software Engineering, Machine Structure & Assembly Language, Software Dev Tooling, Computer Engineering (audit), Machine Learning, Web Development

Work Experience

Markit Social, Inc - Backend Intern

Jun 2021 - Sept 2021

- Designed and implemented new data query patterns, so that only the data relevant to the current app state is fetched, to improve app performance for a social event recommendation app that helps people plan out events with their friends.
- Set up backend utilities such as database backup, image resizing and caching, full-text search, etc
- Used Typescript, Cloud Firestore, Cloud Function, and React Native

Datasaur.ai (YC W20) - Software Engineering Intern

Jul 2020 - Aug 2020

- Worked on the custom script feature on Datasaur's NLP data labeling platform that allows clients to easily convert their own file format to and from Datasaur supported format.
- Enabled clients to test their converter script inside the browser by running it with their test files.
- The feature is in production now.
- Used Typescript, Web Worker, Monaco Editor, Docker, and React.

Manchester Craftsmen's Guild (MCG) - Full Stack Developer

Jun 2020 - Jul 2020

- Built a web application, including the web UI, backend APIs, and database, that allows teachers at MCG to create and publish courses based on 700+ course standards.
- Allowed teachers to view courses published by other teachers and use those as templates or starting points for their own.
- Used Node, Express, MongoDB, and React.

Tufts University - Discrete Math Teaching Assistant

Jan 2020 - Dec 2020

- Held office hours to help students with problem sets and graded homework.

Projects

Universal Machine (UM) - in C

- Built a CPU emulator that uses a RISC instruction set.
- Optimized the UM with profiling tools like kcachegrind.
- Implemented an RPN calculator in the UM's assembly language.

Multi-threaded Regex Matcher - in Java

- Converted a regular expression to a Nondeterministic Finite Automata(NFA)
- Used multithreading when there's nondeterminism in the string to check if it matches the regex

Network Incident Alarm - in Python

- Used the scapy library to parse and analyse received packages in a PCAP file
- Report incidents when certain scan patterns such as NULL scan and FIN scan are detected.

Nextwatch - nextwatch.herokuapp.com

- Built a movie browsing app that allows users to get movie recommendations based on their moods and add them to their watchlists.
- Implemented all backend logic, and integrated the frontend, backend and the database.
- Used Node, Express, MongoDB, and The Movie Database.

Technical Skills

Languages: C++, C, Javascript, Typescript, Java, Python, Bash, SQL, HTML, CSS.

Frameworks & Technologies: Node, GCP, AWS, React Native, MongoDB, Git, Linux, Wireshark, Computer Organization, Jupyter Notebook, Scikit-learn