

Liheng Cao

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EXPERIENCE

Meta - Facebook

08/2022 – 02/2024

Software Engineer on Facebook Feed Health

Seattle, WA

- Efficiency: Saved **\$2M** from CPU wins across various projects by ideating, optimizing, and experimenting.
- Reliability: Designed, implemented, & deployed an automatic throttling platform across Feed to **auto-mitigate an entire class of reliability regressions**, preventing overnight pages.
- Augmented internal tools to simplify workflows and increase developer velocity for identifying efficiency wins.
- In a **tier 1 oncall**, prevented major site uptime outages, user experience, and revenue regressions by live debugging.

Machines in Motion Lab at NYU Tandon

06/2021 – 05/ 2022

Undergraduate Research Assistant

Brooklyn, NY

- Contributed to research for **contact detection for legged locomotion** and **path integral for policy improvement**
- Assembled, tested, and repaired robots for **research and teaching**
- Developed **Python/C++ bindings** for IMU sensor, and modified USB driver and serial reader code
- Operated Vicon motion tracking system and integrated with robot motion

RoboSub VIP Team at NYU Tandon

08/2021 – 05/2022

Software Team Lead

Brooklyn, NY

- Assigned tasks and **supervised team members** in motor control, vision, task planning, and localization
- As inaugural software lead, researched relevant topics and trained team, establishing the foundational processes and practices.
- Developed the vision and task planning of the robot to allow autonomy during the competition

Robotic Design Team at NYU Tandon

09/2020 – 09/2021

Software Competency Member

Brooklyn, NY

- Implemented **computation offloading** from robot to server to reduce robot size by allowing **robot-server communication**
- Integrated sensor and motor data to allow robot movement

EDUCATION

New York University, Tandon School of Engineering

Brooklyn, New York

Bachelor of Science in Computer Science, Minor in Mathematics, Magna Cum Laude

09/2019 – 05/2022

SELECT SIDE PROJECTS — MORE ON [GITHUB](#) AND [PERSONAL WEBSITE](#)

Static Site/Blog Generator ([repo](#))

Python

- [My blog](#) is generated using this
- Initially used Jekyll, but didn't like it, so thought it would be cool to write my own
- Less features, but much easier to customize looks and behavior to my taste

Character recognition neural network in the browser ([demo](#))

Python

- Trained my own convolutional neural network using Pytorch on the EMNIST dataset
- Set up a no backend website to demo the model with a mouse cursor drawing.
- No backend! It's a static site! Everything runs on your browser.

Cost Splitter App ([demo](#))

JavaScript

- Built a Cost Splitter app from scratch using basic web dev. for my roommates
- Receives name, price, and people to split amongst and outputs how much each person pays
- Allows roommates to split group grocery runs at Costco and restaurants

CRUD App

Go

- Built a distributed Create, Read, Update, Delete database app using Go
- Implemented the Raft consensus algorithm
- App could be accessed from multiple frontends, and data was distributed over multiple backends

SCUEM V 2020 Differential Equations Modelling Competition ([repo](#))

Processing

- Modeled and animated the physics of a bird spinning around on a bicycle wheel as a part of a 3 man team
- Scored the highest score (4.875/5) out of 180 other teams

KEY SKILLS

Languages: Python, C++, PHP, HTML, CSS, JavaScript, Rust, Golang, PyTorch

Topics: Software Engineering, Performance Optimization, Reliability, Efficiency, Latency, Machine Learning, Parallel and Distributed Systems, Robotics, Networking

Full Stack