Liheng Cao

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Experience

Meta/Facebook Aug. 2022 – Feb, 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 upsite, user experience, and revenue regressions by **live debugging**.

Machines in Motion Lab at NYU Tandon Jun. 2021 – May 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
- Created poster documenting research and presented to lab

NYU RoboSub VIP Team at NYU Tandon Aug. 2021 – May 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 the team
- Developed the vision and task planning of the robot to allow autonomy

NYU Robotic Design Team VIP Team at NYU Tandon Sep. 2020 – Sep. 2021
Software Competency Member *Brooklyn, NY*

- Competed in the NASA Robotics Mining Competition
- Wrote code to allow communication between server and robot to keep the robot lightweight
- Integrated sensor 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 *Sep. 2019 – May 2022*

Select Projects – more on GitHub and Personal website

Character recognition neural network in the browser

- 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! Everything runs on your browser.

Cost Splitter App

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

CRUD App

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

Sign Language Classifier

- Trained various models with a partner to classify the MNIST Sign Language dataset
- Created a presentation of results and presented to members of the Introduction to Machine Learning course

SCUDEM V 2020 Differential Equations Modelling Competition

- 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

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