

Liheng Cao

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EXPERIENCE

Alphabet - Google

Software Engineer on Stockroom

09/2024 – Present

New York, NY

- Predict capacity usage of Google Cloud
- Implemented forecast segmentation to enable more granular forecasts
- Built dashboard and backtests to launch new forecasting data source

Meta - Facebook

Software Engineer on Facebook Feed Health

08/2022 – 02/2024

Seattle, WA

- Efficiency: Saved **\$2M** in one half 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

Undergraduate Research Assistant

06/2021 – 05/ 2022

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

Software Team Lead

08/2021 – 05/2022

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

Software Competency Member

09/2020 – 09/2021

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

Bachelor of Science in Computer Science, Minor in Mathematics, Magna Cum Laude, Graduated in 3 years

Brooklyn, New York

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

SCUDEM 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, SQL

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