Liheng Cao

lihengcao@gmail.com | linkedin.com/in/lihengcao | github.com/lihengcao | [Personal website](#)

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 the team to setup the foundation of the team
- 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](#)

2048 game terminal clone ([repo](#))   Python
- This was an interview question that I failed back in the day and I thought it was interesting enough to do as a project
- Simple terminal game written in Python

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

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

Topics: Software Engineering, Performance Optimization, Reliability, Efficiency, Latency, Machine Learning, Parallel and Distributed Systems, Robotics, Networking, Full Stack
Languages: Python, C++, PHP, HTML, CSS, JavaScript, Rust, Golang, PyTorch