

## EDUCATION

---

### Columbia University

*M.S. in Mechanical Engineering*

New York, NY

*Aug 2022 – Dec 2023*

- **Concentrations:** Artificial Intelligence & Robotics
- **Relevant coursework:** Robot Learning, Reinforcement Learning, Deep Learning for Computer Vision, High-performance ML, Artificial Intelligence, Convex Optimization (audit), Math for Deep Learning

### Massachusetts Institute of Technology (MIT)

*B.S. in Mechanical Engineering*

Cambridge, MA

*Aug 2017 – May 2021*

- **Concentrations:** Biomedical Engineering
- **Relevant coursework:** Design of Medical Devices, Fundamentals of Programming in Python, Dynamics & Control

## RELEVANT EXPERIENCE

---

### Columbia University Department of Mechanical Engineering

*Graduate Teaching Assistant*

New York, NY

*Jan 2023 – Dec 2023*

- \* Developed ROS-based assignments for the applied robotics class covering motion planning, state estimation, and 3D coordinate transformations
- \* Maintained 50+ student course server and SVN repos for assignment submission and grading
- \* Developed and maintained microcontroller-based lab exercises for the mechatronics course

### Columbia University Department of Mechanical Engineering

*Graduate Research Assistant*

New York, NY

*Jan 2023 – Dec 2023*

- \* Developed a meta-learning based framework for intent classification of EMG readings in PyTorch
- \* Implemented basic online learning methods for intent classification and tested them on real hardware
- \* Wrote firmware for the robotic hand orthosis used in the MyHand project

### MIT Department of Biological Engineering

*Undergraduate Research Assistant*

Cambridge, MA

*May 2020 – May 2021*

- \* Developed new unsupervised approach to cell type classification in the context of single-cell RNA sequencing
- \* Tested approach on real lab data and showed accuracy improvement over standard method
- \* Presented findings at an NIH Systems Biology conference

## PROJECTS

---

- **COMS4995 Vision Encoder:** Model for estimating the joint configuration of a robot arm from images. Conceived the idea for the project, designed the base network architecture in PyTorch, and ran optimization experiments. Model showed less than 1% prediction error at 4 out of the 6 joints of the arm.
- **ORCS4529 Maze Navigation:** Reinforcement-based approach to maze navigation. Goal was to train a policy that could reach a goal from just the agent's first-person view without any fine-tuning. I implemented DQN from scratch, and I built reward and action wrappers to modify the Gym environments we employed.
- **Streeteasy Scraper:** Web-tool for making the NYC apartment hunt easier. I built an application that emailed me every 10 minutes with the newest apartment listings satisfying my search criteria. The tool runs for free and circumvents the request limit on Streeteasy which prevents the use of traditional scraping methods. My first NYC apartment was found with this tool.

## INVOLVEMENT

---

- **MIT First-Gen Initiative:** Involved in the establishment of MIT's unified first-gen/low-income club, and served as community outreach chair for one of the subsidiary clubs

## SKILLS

---

**Languages:** Python, C++, MATLAB, R, CUDA

**Technologies:** Git, Docker, Linux, GCP, Weight&Biases, PyTorch, Gym, Sci-kit Learn, Arduino, OpenCV, Numba, Profiling