Charles Sun

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EDUCATION

UNIVERSITY OF CALIFORNIA, BERKELEY

M.S., Computer Science
Candidate
Aug 2022 - May 2023

B.A., Computer Science
Aug 2018 - May 2022
GPA: 4.00

COURSEWORK

GRADUATE

Deep Reinforcement Learning
Natural Language Processing

UNDERGRADUATE

Machine Learning
Computer Vision
Probability & Random Processes
Convex Optimization
Algorithms
Computer Security
Computer Graphics
Quantum Computing
Discrete Math and Probability
Computer Architecture
Data Structures

SKILLS

LANGUAGES

Python
C++
Java
C

FRAMEWORKS

TensorFlow
PyTorch
TensorRT
PyBullet

TECHNOLOGY

ROS
Docker
Linux
LaTeX
Git
Blender
Unity
Unreal Engine

EXPERIENCE

AEVA | Software Engineering Intern

May 2021 - August 2021 | Mountain View, CA

- Worked on the perception team at a company developing 4D FMCW LiDAR.
- Researched SotA point cloud semantic segmentation algorithms and wrote documentation for production engineers to use.
- Implemented GPU accelerated inference pipeline using C++, CUDA, and TensorRT, which is optimized for inference speed and used in production.
- Wrote evaluation pipeline on proprietary LiDAR point-cloud dataset used by R&D team to speed up iterations.

BERKELEY AI RESEARCH LAB (BAIR) | Undergraduate Researcher

February 2020 - Present | Berkeley, CA

- Supervised by Professor Sergey Levine.
- Working on state-of-the-art research on reinforcement learning, sequence modeling, robotics, and machine learning.
- Currently researching how to extend sequence modeling with transformer models (GPT) into model-based planning for RL.
- Developed ReLMM, a mobile manipulation system that can learn continuously on a real-world platform without any environment instrumentation, with minimal human intervention, and without access to privileged information, such as maps, objects positions, or a global view of the environment.

UC BERKELEY | Teaching Assistant

August 2019 - May 2021 | Berkeley, CA

- TA for EECS 126 Probability & Random Processes (Spring 2021).
- Responsible for leading weekly office hours, creating weekly discussion worksheets, and answering student questions on Piazza.
- Previously TA for CS 170 Efficient Algorithms (Fall 2020) and CS 61A Structure and Interpretation of Computer Programs (Fall 2019, Spring 2020).

SKYCURRENT | Software Engineering Intern

June 2019 - August 2019 | Oakland, CA

- Worked for a startup building skyscraper window cleaning robots.
- Designed and developed the software infrastructure of the main control system.
- Collaborated directly with the mechanical and electrical team to develop interface between software and hardware.
- Refactored existing codebase for modularity and readability, speeding up workflow.
- Reduced robot automated window cleaning time from ~2 months to ~1 day.

ROBOTICS AT BERKELEY PROJECT TEAM | Lead Systems Engineer

February 2019 - June 2019 | Berkeley, CA

- Led team of students in the creation of a cubic rolling-by-flipping robot.
- Designed and built the electrical system of the flipping mechanic using a flywheel.
- Implemented software control using Arduino to enable robot movement.

PUBLICATIONS

- **Charles Sun***, Jędrzej Orbik*, Coline Devin, Brian Yang, Ahbishek Gupta, Glen Berseth, Sergey Levine. "Fully Autonomous Real-World Reinforcement Learning for Mobile Manipulation." *Conference on Robot Learning (CoRL), 2021.*