Charles Sun

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Education

University of California, Berkeley — Berkeley, CA
B.A. in Computer Science — August 2018 - Expected May 2022
GPA: 4.0/4.0

Publications

Conference Papers

[1] **Charles Sun***, Jędrzej Orbik*, Coline Devin, Brian Yang, Abhishek Gupta, Glen Berseth, and Sergey Levine. "Fully Autonomous Real-World Reinforcement Learning with Applications to Mobile Manipulation." In *5th Conference on Robot Learning (CoRL), 2021.*
Summary: We propose a reinforcement learning system that can learn mobile manipulation tasks continuously in the real world without any environment instrumentation, without human intervention, and without access to privileged information, such as maps, objects positions, or a global view of the environment.

Research Experience

Berkeley AI Research (BAIR) — Berkeley, CA
Undergraduate Researcher — February 2020 - Present

- Supervised by Professor Sergey Levine.
- Working 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.

Teaching Experience

University of California, Berkeley

- Teaching Assistant for Probability & Random Processes (EECS 126) — Spring 2021
- Teaching Assistant for Efficient Algorithms and Intractable Problems (CS 170) — Fall 2020
- Teaching Assistant for Structure and Interpretation of Computer Programs (CS 61A) — Fall 2019 & Spring 2020

Work Experience

Aeva — Mountain View, CA
Software Engineering Intern — May 2021 - August 2021

- 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.

SkyCurrent — Oakland, CA

Software Engineering Intern — June 2019 - August 2019

- 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.