Carl Qi

Gates Dell Complex
2317 Speedway
Austin, TX, 78712

Website: https://carl-qi.github.io
Email: carlq@utexas.edu

Education

University of Texas at Austin August 2023 – Present
Ph.D. in Electrical & Computer Engineering **GPA: 4.0**

Carnegie Mellon University August 2021 – December 2022
M.S. in Machine Learning **GPA: 3.96**

University of California, Berkeley August 2017 – August 2021
B.A. in Computer Science, B.A. in Applied Mathematics **GPA: 3.976 (Summa Cum Laude)**

Research Experience

MIDI Lab, UT Austin Austin, Texas
Graduate Student Researcher **August 2023 – Present**

- Work with Prof. Amy Zhang on improving generalization of reinforcement learning algorithms
- First authored multiple papers in major conferences including ICLR and ICRA

The Robotics Institute, Carnegie Mellon University Pittsburgh, PA
Graduate Student Researcher **August 2021 – June 2023**

- Work with Prof. David Held on computer vision and machine learning for robotic manipulation
- Conduct research on policy training and long horizon reasoning for deformable object manipulation
- First authored multiple papers in major conferences and got media coverage in the Washington Post

Berkeley Artificial Intelligence Research (BAIR) Berkeley, CA
Undergraduate Student Researcher **April 2020 – April 2021**

- Worked with Prof. Pieter Abbeel and Prof. Aditya Grover on robust imitation learning
- Designed and implemented all experiments that improved existing SOTA performance by 35%

Industry Experience

UC Berkeley Electrical Engineering and Computer Science (EECS) Berkeley, CA
Instructor | CS188 – Intro to AI **June 2021 – August 2021**

- Gave 25 lectures on fundamental AI techniques such as reinforcement learning to 250+ students
- Recruited and led 20 staff members to develop course materials: 2 exams, 5 projects and 10 homework
- Invented policies that facilitated remote learning to accommodate students from 6 different time zones

Goldman Sachs New York City, NY
Quantitative Strategist Intern **July 2020 – August 2020**

- Undertook backend development in a digital storefront that delivers cross-asset access to global markets
- Developed 2 production-level endpoints that allowed investors to assess risk profile in various scenarios
- Integrated the endpoints with an open-source Python library that resulted in 100+ client visits per day

Publications & Preprints

[1] Carl Qi, Dan Haramarti, Tal Daniel, Aviv Tamar, and Amy Zhang. "EC-Diffuser: Multi-Object Manipulation via Entity-Centric Behavior Generation". In: *Preprint*. 2024. URL: https://openreview.net/forum?id=o3pJU5QCtv.

[2] Carl Qi, Sarthak Shetty, Xingyu Lin, and David Held. "Learning Generalizable Tool-use Skills through Trajectory Generation". In: *arXiv preprint arXiv:2310.00156* (2023).

[3] Carl Qi, Yilin Wu, Lifan Yu, Haoyue Liu, Bowen Jiang, Xingyu Lin, and David Held. "Learning generalizable tool-use skills through trajectory generation". In: *arXiv preprint arXiv:2310.00156* (2023).

[4] Xingyu Lin*, Carl Qi*, Yunchu Zhang, Yunzhu Li, Zhiao Huang, Katerina Fragkiadaki, Chuang Gan, and David Held. "Planning with Spatial-Temporal Abstraction from Point Clouds for Deformable Object Manipulation". In: *6th Annual Conference on Robot Learning*. 2022. URL: https://openreview.net/forum?id=tyxyBj2w4vw.

[5] Carl Qi, Xingyu Lin, and David Held. "Learning Closed-Loop Dough Manipulation Using a Differentiable Reset Module". In: *IEEE Robotics and Automation Letters* 7.4 (2022), pages 9857–9864. DOI: 10.1109/LRA.2022.3191239.

Awards & Honors

Qualcomm Innovation Fellowship Finalist — **2023**
Qualcomm

2nd Place Winner of East Coast Regional Datathon — **2021**
Citadel Securities

2nd Place Winner in Cisco EN Hackathon — **2019**
Cisco

2nd Place Winner in Sodahacks — **2018**
University of California, Berkeley

1st Prize in Beijing High School Mechanics Contest — **2015**
Chinese Society of Physics

Teaching

10-418/618: ML for Structured Data — Carnegie Mellon University
TA — **Spring 2022**

10-725: Convex Optimization — Carnegie Mellon University
TA — **Fall 2021**

CS188: Artificial Intelligence — Univeristy of California, Berkeley
Instructor — **Summer 2021**

CS188: Artificial Intelligence — Univeristy of California, Berkeley
TA — **Spring 2021**

CS188: Artificial Intelligence — Univeristy of California, Berkeley
TA — **Fall 2020**

CS188: Artificial Intelligence — Univeristy of California, Berkeley
TA — **Spring 2020**

CS188: Artificial Intelligence — Univeristy of California, Berkeley
TA — **Fall 2019**