

# Carl Qi

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## Education

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<b>University of Texas at Austin</b> <i>Ph.D. in Electrical &amp; Computer Engineering</i>	August 2023 – Present <b>GPA: 4.0</b>
<b>Carnegie Mellon University</b> <i>M.S. in Machine Learning</i>	August 2021 – December 2022 <b>GPA: 3.96</b>
<b>University of California, Berkeley</b> <i>B.A. in Computer Science, B.A. in Applied Mathematics</i>	August 2017 – August 2021 <b>GPA: 3.976 (Summa Cum Laude)</b>

## Research Experience

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<b>The Robotics Institute, Carnegie Mellon University</b> <i>Graduate Student Researcher</i>	Pittsburgh, PA <b>August 2021 – April 2022</b> <ul style="list-style-type: none"><li>• Work with Prof. David Held on computer vision and machine learning for robotic manipulation</li><li>• Conduct research on policy training and long horizon reasoning for deformable object manipulation</li><li>• First authored multiple papers in major conferences and got media coverage in the Washington Post</li></ul>
<b>Berkeley Artificial Intelligence Research (BAIR)</b> <i>Undergraduate Student Researcher</i>	Berkeley, CA <b>April 2020 – April 2021</b> <ul style="list-style-type: none"><li>• Worked with Prof. Pieter Abbeel and Prof. Aditya Grover on robust imitation learning</li><li>• Designed and implemented all experiments that improved existing SOTA performance by 35%</li></ul>

## Industry Experience

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<b>UC Berkeley Electrical Engineering and Computer Science (EECS)</b> <i>Instructor   CS188 – Intro to AI</i>	Berkeley, CA <b>June 2021 – August 2021</b> <ul style="list-style-type: none"><li>• Gave 25 lectures on fundamental AI techniques such as reinforcement learning to 250+ students</li><li>• Recruited and led 20 staff members to develop course materials: 2 exams, 5 projects and 10 homework</li><li>• Invented policies that facilitated remote learning to accommodate students from 6 different time zones</li></ul>
<b>Goldman Sachs</b> <i>Quantitative Strategist Intern</i>	New York City, NY <b>July 2020 – August 2020</b> <ul style="list-style-type: none"><li>• Undertook backend development in a digital storefront that delivers cross-asset access to global markets</li><li>• Developed 2 production-level endpoints that allowed investors to assess risk profile in various scenarios</li><li>• Integrated the endpoints with an open-source Python library that resulted in 100+ client visits per day</li></ul>

## Publications & Preprints

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- [1] Carl Qi, Sarthak Shetty, Xingyu Lin, and David Held. “Learning Generalizable Tool-use Skills through Trajectory Generation”. In: *arXiv preprint arXiv:2310.00156* (2023).
- [2] 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>.
- [3] Carl Qi, Pieter Abbeel, and Aditya Grover. “Imitating, Fast and Slow: Robust learning from demonstrations via decision-time planning”. In: *arXiv preprint arXiv:2204.03597* (2022).
- [4] 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

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<b>2nd Place Winner of East Coast Regional Datathon</b> <i>Citadel Securities</i>	<b>2021</b>
<b>2nd Place Winner in Cisco EN Hackathon</b> <i>Cisco</i>	<b>2019</b>
<b>2nd Place Winner in Sodahacks</b> <i>University of California, Berkeley</i>	<b>2018</b>
<b>1st Prize in Beijing High School Mechanics Contest</b> <i>Chinese Society of Physics</i>	<b>2015</b>

## Teaching

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<b>10-418/618: ML for Structured Data</b> <i>TA</i>	Carnegie Mellon University <b>Spring 2022</b>
<b>10-725: Convex Optimization</b> <i>TA</i>	Carnegie Mellon University <b>Fall 2021</b>
<b>CS188: Artificial Intelligence</b> <i>Instructor</i>	Univeristy of California, Berkeley <b>Summer 2021</b>
<b>CS188: Artificial Intelligence</b> <i>TA</i>	Univeristy of California, Berkeley <b>Spring 2021</b>
<b>CS188: Artificial Intelligence</b> <i>TA</i>	Univeristy of California, Berkeley <b>Fall 2020</b>
<b>CS188: Artificial Intelligence</b> <i>TA</i>	Univeristy of California, Berkeley <b>Spring 2020</b>
<b>CS188: Artificial Intelligence</b> <i>TA</i>	Univeristy of California, Berkeley <b>Fall 2019</b>