Adam Wei

Cambridge, MA weiadam@mit.edu adamwei.com Google Scholar

Education

Massachusetts Institute of Technology *Sep 2023 – Present*
Ph.D. Student in Computer Science – **Advisor:** Prof. Russ Tedrake

- My research focuses on two main directions: **1)** understanding and improving how different data sources can be used in robot imitation learning, **2)** algorithmic improvements for generative modeling in robotics with a focus on learning from out-of-distribution or low-quality data.

University of Toronto *Sep 2019 – May 2023*
B.Eng. in Electrical Engineering

- **CGPA:** 3.99/4.0

Publications & Preprints

Empirical Analysis of Sim-and-Real Cotraining of Diffusion Policies for Planar Pushing from Pixels *IROS* 2025, *CoRL Workshop* 2025
***Adam Wei**, Abhinav Agarwal, Boyuan Chen, Rohan Bosworth, Nicholas Pfaff, Russ Tedrake*

How Well do Diffusion Policies Learn Kinematic Constraint Manifolds? *Under Review* 2025
*Lexi Foland, Thomas Cohn, **Adam Wei**, Nicholas Pfaff, Boyuan Chen, Russ Tedrake*

Consensus Complementarity Control for Multi-Contact MPC *IEEE T-RO Journal* 2024
Best Paper Award
*Alp Aydınoğlu, **Adam Wei**, Wei-Cheng Huang, Michael Posa*

Framework and Software for Real-Time Multi-Contact Model Predictive Control *RSS* 2022
*Alp Aydınoğlu, **Adam Wei**, Michael Posa*

BitAllocation: A Resource Allocation Algorithm For Fixed-Point Quantization *Preprint* 2021
***Adam Wei**, Andreas Moshovos*

Talks

Empirical Analysis of Sim-and-Real Cotraining *Hangzhou, China / Seoul, Korea*
IROS 2025 / CoRL Workshop 2025 *Oct 2025 / Sep 2025*

Learning From Out-of-Distribution Data in Robotics *Cambridge, MA*
Slides *Amazon Science Hub Robotics Research Day 2025* *Sep 2025*

Principles of Sim-and-Real Cotraining for Robot Manipulation *Sunnyvale, CA*
Slides *Amazon Consumer Robotics Symposium 2025* *Apr 2025*

Fellowships & Awards

Best Paper Award, *IEEE RAS TC on Model-based Optimization for Robotics* 2025
Graduate Research Fellowship, *National Science Foundation* 2024
Canada Graduate Scholarships-Doctoral, *NSERC* 2024
NDSEG Honorable Mention, *US Department of Defense* 2023
Gordon R. Selmon Capstone Design Award, *University of Toronto* 2023
ECE Top Student Award, *University of Toronto* 2020, 2021, 2022
First-Year Summer Research Fellowship, *University of Toronto* 2020

Work Experience

Robotics Ph.D. Student *Cambridge, MA*
Massachusetts Institute of Technology – *Advisor: Prof. Russ Tedrake* *Sep 2023 – Present*

- My research focuses on two main directions: **1)** understanding and improving how different data sources can be used in robot imitation learning, **2)** algorithmic improvements for generative modeling in robotics with a focus on learning from out-of-distribution or low-quality data.

Robotics Research Assistant *Philadelphia, PA*
University of Pennsylvania, GRASP Lab – *Advisor: Prof. Michael Posa* *May – Dec 2022*

- Developed and deployed a real-time model predictive control algorithm for multi-contact systems
- Published in the IEEE T-RO journal and received a **Best Paper Award** (see above)

Software Engineer *Toronto, Canada*
Tenstorrent – *AI Hardware Start-up with Jim Keller* *May – Aug 2021*

- Developed infrastructure for our chip's kernels & backend compiler using C++, Python, SQL, and Verilog
- Awarded a bonus for demonstrating leadership skills and taking ownership of my projects

Machine Learning Research Assistant *Toronto, Canada*
University of Toronto – *Advisor: Prof. Andreas Moshovos* *May 2020 – Dec 2021*

- Developed a novel optimization-based quantization algorithm that achieved state-of-the-art compression of ImageNet models in linear-time (as opposed to existing algorithms that required exponential time)

Teaching & Service

Teaching Assistant, University of Toronto *Toronto, Canada*
ECE421: Robot Modeling and Control – *Prof. Lacra Pavel* *Sep – Dec 2022*

Graduate School Application Mentor, Massachusetts Institute of Technology *Cambridge, MA*
MIT GAAP Program *2023 – 2024*

University of Toronto vs University of Waterloo: a Detailed Comparison *2023*
Blog Post

Student Mentor, University of Toronto *Toronto, Canada*
ECE Club Mentorship Program *2022 – 2023*