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Dingqi Zhang Ph.D. candidate

Education

University of California, Berkeley Berkeley, CA
Ph.D. in Control and Robotics Aug 2021 - May 2026 *(expected)*
- Advisor: Prof. Mark W. Mueller, Prof. Jitendra Malik
- Research area: Learning-based adaptive control for agile low-level motor skills

Cornell University Ithaca, NY
B.S. in Computer Science and Mechanical Engineering Aug 2017 - May 2021

Experience

RAI Institute (formerly known as the Boston Dynamics AI Institute) Boston, MA
Research Intern on Dexterous Mobile Manipulation Summer 2025
- **Research focus**: real-time adaptation for agile, contact-rich robotic manipulation using reinforcement learning, adaptive MPC, and world model learning, demonstrated on pen spinning tasks with the Allegro Hand

University of California, Berkeley Berkeley, CA
Graduate Researcher Aug 2021 - present
- **Research focus**: developing a single learning-based controller for cross-embodiment adaptation with imitation and reinforcement learning, demonstrated on aerial vehicles with 10x–100x parameter variations

The Chinese University of Hong Kong Hong Kong
Visiting Researcher, advised by Prof. Ben M. Chen Summer 2024

Zipline International Inc. South San Francisco, CA
Engineer Intern on Guidance, Navigation, and Control Summer 2023

Publications

D. Zhang, A. Loquercio, J. Tang, T.-H. Wang, J. Malik, and M. W. Mueller, "A learning-based quadcopter controller with extreme adaptation," *IEEE Transactions on Robotics*, vol. 41, pp. 3948–3964, 2025. DOI: 10.1109/TRO.2025.3577037

R. Zhang, **D. Zhang**, M. W. Mueller, "ProxFly: Robust Control for Close Proximity Quadcopter Flight via Residual Reinforcement Learning," in *2025 IEEE International Conference on Robotics and Automation (ICRA)*, IEEE, 2025

D. Zhang, A. Loquercio, X. Wu, A. Kumar, J. Malik, and M. W. Mueller, "Learning a single near-hover position controller for vastly different quadcopters," in *2023 IEEE International Conference on Robotics and Automation (ICRA)*, IEEE, 2023, pp. 1263–1269

Fellowship and Grant

Ignite Grant, the Jacobs Institute Innovation Catalysts, UC Berkeley Jan 2024
- Top 3% award for advanced student-led design and technology projects.

Spark Grant, the Jacobs Institute Innovation Catalysts, UC Berkeley Sept 2023
- Top 7% award for early-stage innovative ideas in design and technology.

Graduate Division Block Grant Award, UC Berkeley Aug 2021
- Fellowship recognizing academic excellence and research potential.

Academic Service

Reviewer for:

Journals: IEEE Transactions on Robotics (T-RO), IEEE Robotics and Automation Letters (RA-L), IEEE/ASME Transactions on Mechatronics (TMECH)

Conferences: Robotics: Science and Systems (RSS), International Conference on Robotics and Automation (ICRA), International Conference on Intelligent Robots and Systems (IROS)

Educational Activities

ME136/236 Dynamics and Control of Autonomous Flight — Fall 2024
Teaching Assistant, UC Berkeley

Master of Future Energy Systems and Technology degree program — Jan 2023 - Sept 2024
Teaching Assistant, Dubai Electricity and Water Authority (DEWA) and UC Berkeley

ME136/236 Dynamics and Control of Autonomous Flight — Fall 2023
Teaching Assistant, UC Berkeley

Invited Speaker

Keynote: A Learning-based Quadcopter Controller for Extreme Adaptation, Control Seminar, UC Berkeley — Apr 2025

Poster and Keynote: Bay Area Robotics Symposium, UC Berkeley — Oct 2024

Presentation at Prof. Ben M. Chen's group, Chinese University of Hong Kong — July 2024

Presentation at the Intelligent Positioning and Navigation Laboratory, Hong Kong Polytechnic University — July 2024

Poster and Keynote: Bay Area Robotics Symposium, UC Berkeley — Oct 2022

Media Coverage

IEEE Spectrum, Video Friday: Your weekly selection of awesome robot [link] — Oct 4, 2024

Technical Skills

Core Expertise: control theory, reinforcement learning, model-based planning, adaptive systems, sim-to-real transfer, deep dynamics modeling

Frameworks: PyTorch, ROS, IsaacLab, MuJoCo, WandB, Git

Languages: Python, C/C++, MATLAB, Julia, Bash

Other: real-time systems, trajectory optimization, system identification, hardware deployment

Research Areas: aerial robotics, dexterous manipulation, adaptive control, cross-embodiment learning

Applications: quadrotor control, robotic manipulation, autonomous systems, dynamic environments