

Ray Muxin Liu

Pittsburgh, PA | 412-287-3755 | muxinl@andrew.cmu.edu | raymuxinliu.com

EDUCATION

Carnegie Mellon University

Expected December 2026

B.S. in Artificial Intelligence, School of Computer Science | GPA: 3.87 / 4.00

Relevant Coursework: 10-623 Generative AI, 11-785 Introduction to Deep Learning, 15-442 Machine Learning Systems, 10-703 Deep Reinforcement Learning & Control

RESEARCH EXPERIENCE

Carnegie Mellon University

Mar 2024 - Present

Undergraduate Researcher, Deepak Pathak Research Group | Pittsburgh, PA

- Conduct research on robot learning, dexterous manipulation, and behavior generalization across simulation and real-world systems
- Built large-scale simulation pipelines that generated millions of diverse, functional dexterous grasps; contributed to distilling grasp data into a diffusion model

SELECTED PUBLICATIONS

Bimanual Dexterity for Complex Tasks

Kenneth Shaw*, Yulong Li*, Jiahui Yang, Mohan Kumar Srirama, **Ray Liu**, Haoyu Xiong, Russell Mendonca, Deepak Pathak
Conference on Robot Learning (CoRL), 2024

IFG: Internet-Scale Guidance for Functional Grasping Generation

Ray Muxin Liu*, Mingxuan Li*, Kenneth Shaw, Deepak Pathak
ICRA Workshop on Robot Learning Prior Maps, 2025 - Best Poster Finalist

COWBOY: A Scalable Sim-to-Real Framework for Learning Contextual Whole-Body Manipulation

Jiahui Yang*, Jason Jingzhou Liu*, **Ray Muxin Liu***, Andrew E. Wang, Kenneth Shaw, Deepak Pathak, Ruslan Salakhutdinov
Conference on Robot Learning (CoRL), 2026 (Accepted)

SELECTED RESEARCH PROJECTS

Real-World VLA Post-Training - *Ongoing* | Built a bimanual Franka-Gello teleoperation setup and collected demonstrations for VLA post-training

Motion Generation and Control - *Ongoing* | Reimplemented Riemannian Motion Policies and am developing geometric fabrics for reactive motion generation

TECHNICAL SKILLS

Robot Learning: PyTorch, reinforcement learning, imitation learning, diffusion and flow models

Robotics: Isaac Gym, Isaac Lab, ROS 2, Franka, Gello, RMPs, geometric fabrics

SELECTED AWARDS

USA Computing Olympiad - Gold Division

American Mathematics Competitions 10 and 12 - Top 2.5%, two years each

FIRST Robotics Competition Regional - 1st Place