

Omar Rayyan

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EDUCATION

University of California, Los Angeles (UCLA)

September 2025 - Present

PhD Student (Advised by Prof. Yuchen Cui)

New York University (NYU)

August 2021 - May 2025

Double Major in Electrical Engineering & Computer Science

GPA: 4.0/4.0

EXPERIENCES

GRAIL (NYU Courant) — Advised by Prof. Lerrel Pinto

January 2024 - Present

Research Assistant

New York, US

- Collaborating with the AI2 PRIOR team on a THOR-based project.
- Developing MuJoCo-based simulation evaluation environments for RUM utility models.
- Led the UntidyBot project, a mobile manipulation framework designed to perform logical, sequential actions in diverse environments beyond standard pick-and-place tasks.
- Open-sourced MuJoCo AR, a plugin enabling real-time integration of ARKit data from iOS devices to control MuJoCo frames and real robots. Installed 20k times since release.

PAIR Lab (Georgia Tech) — Advised by Prof. Animesh Garg

July 2024 - Present

Research Assistant

Atlanta, US

- Scaling data collection for imitation learning using Isaac-Sim and MuJoCo, allowing users to teleoperate vectorized, cloud-hosted IsaacSim environment. Our COBALT project is currently in-submission.
- Designed and implemented custom environments and robotic manipulation tasks in simulation.

CAIR (NYU Abu Dhabi) — Advised by Prof. Anthony Tzes

September 2022 - July 2025

Research Assistant

Abu Dhabi, UAE

- Worked on a scalable multi-view interface for cross-embodiment learning. It allows UMI to use a third-person camera input while mitigating domain shifts.
- Formalized the Remote Center of Motion (RCM) constraint as an algorithmically optimizable task function for general-purpose robotic manipulators, diverging from the mechanically constrained approach of Da Vinci systems. I published and presented this work at the International Conference on Advanced Robotics (ICAR 23')

Google

Jul 2023 - Sep 2023

Software Engineering Intern

Munich, Germany

- Developed a tool to automatically evaluate changes in resource configurations before their integration into the Google Cloud reliability pipeline
- My project earned an award by the team for creating a direct impact on their workflow during my internship

Applied Interactive Multimedia (AIM) Lab — NYUAD

February 2022 - Sep 2022

Student Researcher

Abu Dhabi, UAE

- Worked on KATIB by developing rehabilitation tasks using kinesthetic feedback via under-screen magnets to aid post-stroke recovery, in collaboration with Cleveland Clinic Abu Dhabi physicians.

SELECT PUBLICATIONS AND SOFTWARE

COBALT: Crowdsourcing Robot Learning via Cloud-Based Teleoperation	Website
<i>Agarwal, A., Gandh, A., Collins, J., Rayyan, O., Sarsawat, A., Koushik, R., .. & Garg, A. In Submission</i>	
RCM-Constrained Manipulator Trajectory Tracking using Differential Kinematics	
<i>Rayyan, O., Gonçalves, V., Evangeliou, N., & Tzes</i>	<i>ICAR 2023</i>
MuJoCo AR	
<i>ARKit teleoperation for MuJoCo and the real world</i>	<i>Repository</i>
UntidyBot	
<i>ok-robot, beyond pick and place</i>	<i>Repository</i>
Past Code	
<i>App with over a million usages that helps students find supporting papers using their phone.</i>	<i>App Store</i>

AWARDS AND HONORS

IEEE Best Project Prize	May 2025
<ul style="list-style-type: none">Awarded the best project prize by IEEE for my bachelor thesis across the UAE.	
Comma.ai Controls Competition	Aug 2024
<ul style="list-style-type: none">1st place in comma.ai's controls challenge by training a DDPG reinforcement learning agent to steer a car	
IEEE Xtreme Coding Competition Podiums	2022/23 & 2023/24
<ul style="list-style-type: none">Led a team to podium twice across the region at IEEE's programming competition	
Alfred H. Bloom Scholar	Jun 2024
<ul style="list-style-type: none">Granted annually to one student for excellence in experiential learning - (Letter)	
Deep Learning Graduate Course Competition	May 2024
<ul style="list-style-type: none">Led an undergraduate team to podium in the graduate-level deep learning course competition at NYU	
StartAD Innovention Competition Finalist	May 2022
<ul style="list-style-type: none">Founded LEBSI, a social marketplace, which reached the App Store top charts.	
Cambridge Outstanding UK Learner Award	2021
<ul style="list-style-type: none">Achieved the highest mark in country and region in my Physics A-Level, and across 7 IGCSEs	

EXTRACURRICULARS

Competitive Cubing (Rubik's Cube)	January 2017 - Present
<ul style="list-style-type: none">Set the official 4x4 national record (average and single) at an official WCA cubing competitionCompeted in cubing events in Amman, Manama, New York, and Abu DhabiLed a Rubik's Cube speed-solving workshop at ZINC (Zain Innovation Campus)	