

Omar Rayyan

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EDUCATION

New York University Abu Dhabi (NYUAD)

August 2021 - Present

Double Major in Electrical Engineering & Computer Science

GPA: 4.0/4.0

PUBLICATIONS

RCM-Constrained Manipulator Trajectory Tracking using Differential Kinematics

First-author publication at ICAR 2023

IEEEExplore Paper

EXPERIENCES

People, AI and Robotics (PAIR) Lab — *Georgia Institute of Technology*

July 2024 - Present

Robot Learning Researcher

Atlanta, USA (Remote)

- Developing an interface to crowd-source robot demonstration data via distributed Isaac Gym and MuJoCo simulations.
- Advised by Prof. Animesh Garg, with plans to submit our work to the Robotics: Science and Systems (RSS) Conference 2025

General Robotics and AI Lab (GRAIL) — *NYU Courant*

January 2024 - Present

Robot Learning Researcher

New York, USA (Remote)

- Advised by PhD Mahi Shafiullah in developing a mobile manipulation framework that explores and performs logical and sequential actions in an environment, beyond pick-and-place tasks.
- Worked on fusing predictions by relative depth models with stereo-depth cameras frames to generate higher quality metric depth frames with less noise.



Jul 2023 - Sep 2023

Software Engineering Intern

Munich, Germany

- As part of Google's Space Control team, I developed a tool to assess changes in resource configuration files before submission to the Google Cloud reliability pipeline
- My tool was awarded by the team for its impact on their workflow during my internship

Center for AI and Robotics (CAIR) — *NYU Abu Dhabi*

September 2022 - July 2023

Robotics Researcher

Abu Dhabi, UAE

- Designed a surgical robotics controller to track trajectories inside an enclosed body while minimizing impact at the insertion point with the skin
- Published and presented this work at the International Conference on Advanced Robotics (ICAR)

Applied Interactive Multimedia (AIM) Lab — *NYU Abu Dhabi*

February 2022 - July 2022

Student Researcher

Abu Dhabi, UAE

- Developed rehabilitation tasks using kinesthetic feedback via under-screen magnets to aid post-stroke recovery, in collaboration with Cleveland Clinic Abu Dhabi physicians
- Designed and developed serious games to help children develop handwriting skills, with input from education professionals at Cranleigh School Abu Dhabi

AWARDS AND ACHIEVEMENTS

Alfred H. Bloom Scholar

June 2024

- Awarded NYUAD's Alfred Bloom Scholarship, granted annually to **one** student for excellence in cross-cultural communication, interdisciplinary studies, social impact, and experiential learning

Comma.ai Controls Competition

May 2024

- Won comma.ai's controls challenge by training a reinforcement learning agent to steer a car

Deep Learning Graduate Course Competition

April 2024

- Led an undergraduate team to a podium finish in the graduate-level deep learning course final competition

IEEEExtreme Coding Competition Podiums

October 2022 & October 2023

- Led NYUAD's team to rank third in the UAE in 2023 and fourth in 2022

StartAD Innovention Competition Finalist

May 2022

- Developed LEBSI, a social marketplace promoting sustainability, which reached the App Store top charts and launched in the UAE, Jordan, and Egypt

LEADERSHIP ROLES

Artificial Intelligence Connect Student Club

August 2024 - Present

- Vice President of the Artificial Intelligence student club at NYUAD, where I initiated a bi-weekly reading group for students to discuss recent machine learning research papers

Capstone Robot Policy Team

May 2024 - Present

- Leading a team of students to develop a portable device that allows the quick collection of robotics data

NYUAD 12th & 11th Hackathon for Social Good

April 2022 & April 2023

- Led the development team at NYUAD's Hackathon for Social Good to develop Tanabu, a package using machine learning to improve energy grid maintenance predictions

COMMUNITY WORK

SyriaScript Refugees Instructor and Teaching Assistant

August 2024

- Giving online lectures in Arabic on neural network architectures for refugees enrolled in *Introduction to Data Science and Machine Learning* through the SyriaScript program
- Hosting office hours to support students throughout the course

Habitat for Humanity Engineering Volunteer

March 2023

- Volunteered in Jordan to help construct a community center for underprivileged families as part of NYUAD's Engineers for Social Impact (EFSI) program

Mangrove Plantation Volunteer

March 2023

- Contributed to the UAE's initiative to plant 100 million mangrove trees by 2030, helping plant 5,000 mangrove trees with NYUAD as part of the university's environmental efforts

Blood Donation App (Qatra)

April 2021

- Developed an app to streamline the process for hospitals to find compatible blood donors in urgent cases
- My work on this was featured in a news segment in Jordan news

ATHLETICS

Competitive Cubing (Rubik's Cube)

- Set the official 4x4 **national record** (average and single) at an official WCA cubing competition
- Competed in cubing events in Amman, Manama, New York, and Abu Dhabi
- Led a Rubik's Cube speed-solving workshop at ZINC (Zain Innovation Campus)