

Mohammed Suleiman

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Education

Amherst College (Amherst, MA)

Bachelor of Arts in Computer Science and Mathematics |

Expected: May 2028

GPA: 3.67/4.0

Relevant Courses:

- Machine Learning, Artificial Intelligence, Data Structures, Computer Systems, Multivariable Calculus, Mathematical Reasoning

Research Experience

Summer Undergraduate Research Fellow - Robotics and Software Development:

Amherst, MA | June 2026 – August 2026

- Conducted robotics research using Boston Dynamics Spot, NVIDIA Isaac Lab, and Crazyflie autonomous drones under Professor Scott Alfeld.
- Installed and configured NVIDIA Isaac Sim and Isaac Lab on Amherst's FrostByte computing cluster using Linux, Enroot, SLURM, and A5000/A100 GPUs.
- Developed reinforcement learning and robot control systems involving parallel simulation, flight control, localization, obstacle detection, and simulation to reality deployment.

Selected Projects

Boston Dynamics Spot Balance and Control

- Developed a custom three legged balance controller using center of mass shifting, Jacobian based inverse kinematics, joint control, safety gates, and recovery behaviors.
- Designed and trained a reinforcement learning policy that enabled Spot to balance on its two rear legs in simulation, training 2,400 robots in parallel in approximately six hours.
- Randomized a 2.4 - 3.0 kg payload during training to improve robustness across different payload positions.

Autonomous Crazyflie Flight Behaviors

- Developed throw to hover, obstacle dodging, and "ping pong" flight behaviors using optical flow, Lighthouse localization, and multiranger distance sensors.

Mammoth ReServe - First Place, Hack the Herd Hackathon (Fall 2025)

- Built an AI driven platform that connects campus food surplus with students and local food banks.

SmartCart - Second Place, BrainJam Hackathon (Spring 2026)

- Built a grocery planning application using the Google Maps Places and Gemini APIs to optimize shopping routes, stores, and costs.

Skills

Languages: Java, Python, R, Bash, Arabic

Tools: NVIDIA Isaac Lab, Isaac Sim, IntelliJ, Linux, SLURM, Enroot, VSCode, Github, Creative Cloud, Office Suite

Additional Experience

Postal Clerk

Amherst College, Amherst, MA

August 2025 - Present

Processed and organized packages while assisting students with efficient package retrieval.

Summerbridge Residential Tutor

Amherst College, Amherst, MA

July 2025 - August 2025

Mentored first year students through academic support, study sessions, and residential programming.

Freight Coordinator

A&W Friends Transportation LLC, Remote (Based in San Antonio, TX)

September 2023 - June 2024

Coordinated dispatching, load booking, and shipment tracking for up to three commercial trucks.