

Darren Cleeman

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EDUCATION

University of Michigan

Ann Arbor, MI

Bachelor of Science in Engineering (Major: Robotics | Minor: Computer Science)

Graduation Date: May 2026

GPA: 3.267

Relevant Coursework: Robotic Manipulation, Robotic SLAM, Robot Operating Systems, Robotic Kinematics & Dynamics

WORK EXPERIENCE

General Atomics Aeronautical Systems

Poway, CA

Software Engineering Intern

6/2024 - 8/2024

- Designed and built several features for a plane to ground station communication simulation tool
- Leveraged Python's Tkinter library to build and integrate the new features into the GUI
- Updated a Bash script to safeguard files in designated directories from deletion during the build process of a containerized codebase, improving efficiency
- Improved functionality and reliability by debugging and refactoring legacy code, ensuring previously malfunctioning simulation features operated seamlessly.

PROJECT EXPERIENCE

Autonomous Robotic Vehicles (ARV) Project Team

Ann Arbor, MI

Navigation Sub-team Programmer

9/2024 - 5/2025

- Co-developed a weighted cost-function algorithm that for each path-planning cycle, processes current scanned frame of the track assigns cost by distance, obstacle clearance, and heading alignment to pick the safest, most efficient goal.
- Joint-engineered a ROS 2 Python node that, on every cycle, rebuilds a occupancy frame for the current scanned piece of the track, applies the cost function, and publishes the next goal so the robot advances seamlessly to the finish line.
- Collaborated on a waypoint-prioritization routine that checks each new frame for competition-defined waypoints and overrides the cost-based goal when one is present, ensuring the robot stops at all mandatory checkpoints.

Tech Jam and Innovation Program (University of Michigan)

Ann Arbor, MI

Project Manager

9/2022 - 11/2022

- Organized and helped develop a pitch for a new app to facilitate the friend-making process in college
- Created schedule for milestones, and motivated the team to meet deadlines
- Oversaw development of UI/UX, target market analysis, competitor analysis, and interviews for product market fit

RESEARCH EXPERIENCE

HaptiX Laboratory, University of Michigan

Ann Arbor, MI

Undergraduate Researcher

10/2023 - 5/2024

- Executed detailed moment of inertia evaluations on drones using the bifilar pendulum method, gathering data to refine autonomous drone flight simulations.
- Improved experimental procedures for inertia measurements, enhancing data quality for UAV research.
- Conducted thrust testing for drone motors, initially attempting repair and recalibration of a specialized board through soldering techniques, then switched to a new thrust tester that required the use of Arduino code.

Seeman DNA Nanotechnology Laboratory, NYU

New York, NY

Undergraduate Researcher

6/2023 - 8/2023

- Designed DNA sequences using ChimeraX to act as a blueprint for DNA crystallization
- Performed various lab experiments including gel electrophoresis and DNA purification to prepare the DNA for the crystallization process

SKILLS

Coding Languages: C++, Python, Bash Script, R, Julia, MATLAB, C, Assembly (LEGv8 & LC2K)

OS's: Linux

IDE's: VSCode, RStudio, MATLAB environment