DAVID BARSOUM

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EDUCATION

Olin College of Engineering, B.S. Robotics/Computer Engineering **2027**

- GPA: 4.0/4.0. Coursework: Computational Robotics, Thermodynamics, Linear Algebra, Modeling & Simulation, Fundamentals of Robotics, Sensors & Instrumentation.

Worcester Polytechnic Institute via Massachusetts Academy of Math and Science **2022 – 2024**

- *Dual-enrolled during my senior year of high school as a full-time freshman at WPI.*
- GPA: 4.0/4.0. Relevant coursework: Intro to Robotics Engineering, Assembly Language, Intro to Electrical Engineering. Multivariable calculus.

SKILLS

- **Programming:** ROS2, Docker, Gazebo, C++. C, Java, Python, MATLAB. Git & GitHub, Linux, MySQL & Firebase. Arduino & Raspberry Pi.
- **Mechanical:** *SolidWorks*, FEA, *Fusion360 CAM, OnShape, HAAS Mill,* CNC Router, *Formlab* printers, machine shop tools.
- **Mathematics:** Mathematical modeling, statistics.
- **Languages:** Spanish (Advanced Proficient), Arabic (Proficient), English (native).

EXPERIENCE

Robotics Engineering Intern (3rd Employee) | ReviMo @ Mass Robotics **Jun 2025 – Aug 2025**

- Applied design for manufacturing principles to reduce machining time and optimize prototype manufacturing
- Machined ~100 hours of prototype parts on a CNC Mill, programming Fusion360 CAM toolpaths
- Designed and built an autonomous fatigue test setup and validation procedure for 4th prototype
- Demonstrated device at presentations, including senators at the MA State House

Software Testing Intern | Evolv Technology **Jun 2024 – Aug 2024**

- Developed randomized traffic flow testing module using Python/PyTest for 4K+ weapon detection scanners worldwide
- Designed system architecture and deployed testing module onto BeagleBone devices hosting APIs (Flask) for testing scanners
- Integrated testing devices with Evolv's CI/CD pipeline (Git, BitBucket, Jira, CircleCI) which runs on a daily basis
- Coordinated with 5+ engineers to document and replicate testing hardware to be used across departments
- Tested 50+ hours of simulated traffic on physical scanners and exposed critical errors (memory leak/performance issues)

Co-President | FIRST Robotics Team 190 **Aug 2022 – May 2024**

- Designed 10+ robot components with SolidWorks, created CAM paths with Fusion360, machined parts on CNC mills/routers
- Led robotic development with 30+ students on the club team for the 2 consecutive years of FIRST Robotics competitions
- Coordinated manufacturing, designing, and software projects, winning the 1st place engineering award (Excellence Award)
- Grew robotics team by over 70% and sought donors for a multi-million-dollar FIRST robotics facility for the FRC 190 team

PROJECTS

Digital Sign in/out System (MAMS SISO) | *C++, RFID, MySQL, Python* **Oct 2022 – May 2024**

- Worked on a 3-person team to create a digital sign-in/out system to replace an existing paper-based system
- Designed system architecture to interact with local hardware (Raspberry Pi), MySQL data storage, and NodeJS website
- Organized MySQL database schema to hold 1000+ unique student schedules that vary each school day and sync with calendar
- Programmed Raspberry Pi to decode proprietary HID RFID card bit format to interact with RFID readers and student ID cards
- Filed HECVAT forms and worked with WPI Information Security team to meet FERPA privacy and security standards.

Assistive Wheelchair-Mounted Frisbee Launcher | *OnShape, Physics, CNC Tools* **Feb 2023 – May 2023**

- Led a team of 4 to design a wheelchair-mounted frisbee launcher to enable individuals with limited mobility play with their pets.
- Designed 5+ parts using *OnShape,* integrating a car window motor, spring, and gearbox to launch frisbee like a clay pigeon
- Programmed Arduino to control motor with relay and use device and manufactured parts with machine shop tools
- Modeled mechanical stress using physics to determine required strength of parts and optimal gear ratios

AWARDS

- **High School Mathematical Contest in Modeling (HiMCM):** 1st place rank of 950+ global teams (Outstanding NCTM Award).
- **International Math Modeling Challenge:** #1 U.S. Team out of 216 (Regional Outstanding Award).
- **Division Champions at FIRST Robotics World Championship in Houston '24** (3/80 teams).