Rami I. Hanna

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My portfolio

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Boston, MA | Concord, NH

Main Focus: Self-driven, creative, and observant team player bringing experience from **DEKA R&D**, **Raytheon Technologies**, and **Harvard Microrobotics** prior to August 2023 graduation. Seeking a unique opportunity to continue expanding and contributing knowledge in robotics, engineering, and computer science at prestigious institutions.

EDUCATION

Wentworth Institute of Technology — **August 2019 – August 2023 | Boston, MA**

B.S. Electromechanical Engineering | GPA: 3.92/4.00

Interdisciplinary degree with a focus on mechanical engineering, electrical engineering, electromechanical systems (ABET accredited)

Awards: Dean's Award – Sole recipient per graduating class **|** Dean's List (every semester) **|** Leona and John Ghublikian Fund Recipient

Memberships: Institute of Electrical and Electronic Engineers (IEEE), Remotely Operated Vehicles (ROV), Robotics, Accelerate

Relevant Courses: Digital System Processing, Feedback and Controls, Fluid Dynamics, Heat Transfer, Industrial Controls, MATLAB

PROFESSIONAL EXPERIENCE

Harvard Microrobotics Robotistic Co-op — **September 2022 – March 2023 | Allston, MA**

- Developed webserver using HTML, Flask, Sockets, and MicroROS to control the robot in a teleoperated or autonomous manner.
- Investigated necessary electronic components and how to organize them in an efficient manner based on hydrostatic forces.
- Prototyped various chassis and compliant mechanisms to help robot conform to convex ship hull.
- Collaborated in designing a planetary gearbox which was used for the locomotion of our robot.

Raytheon Technologies Innovation/Robotics Co-op - Confidential Security Clearance — **January 2022 – May 2022 | Andover, MA**

- Automated bonding process using PLCs, Cobots, and Keyence vision systems yielding ~$7 million ROI **(Project Lead)**.
- Collaborated with expert automation engineers to increase factory efficiency by implementing an OCR system.
- Upgraded production line process from manual calibration to closed-loop control for increased cycle times and accuracy.
- Utilized CAD software to create modular and custom fixtures for surface mount technology equipment for various circuit cards.

DEKA Research and Development Controls Intern — **April 2019 - Sept. 2019 | June 2020 – July 2021 | Manchester, NH**

- Responsible for designing and running multiple electrical and mechanical (impact and thermal) tests on biomedical devices.
- Worked directly under lead Controls engineer to design and implement a PID controlled heating and cooling system to operate safely and efficiently via Modbus TCP/IP and LabVIEW.
- Designed an RFID organization system via Modbus TCP/IP and LabVIEW to track and manage subsystem components.
  - Integrated this system to work with Python and SQL for Batch Production Records.
- Led effort to create a versatile test bench that streamlines multi-source serial data autonomously using Arduino and Python.
- Assumed increased responsibility for delivering high-quality outputs, demonstrating understanding and capability.

FIRST Robotics Intern — **March 2019 - June 2019 | Manchester, NH**

- Innovated baseline robots for FIRST demonstration events. Created long-term solutions at competitive costs.
- Contributed to source-controlled software suite, ensuring new updates did not conflict within teams.

Washington Street Café and Catering General Help — **June 2012 – Present | Concord, NH**

- Assist with catering events, managing, invoices, and other necessities.

SKILLS

- Python, MATLAB, Java, C
  - PyQT, OpenCV, Numpy, Pandas
- Arduino, Raspberry Pi
- Windows, Linux, Android
- Git and Surround version control
- Microsoft Office Suite
- Electrical wiring/Soldering
- NI cRIO PLC, LabVIEW
- AC/DC circuitry and diagrams
- E-Box Design (KiCad)
- Program and electrical debugging
- Statics and dynamics calculations
- Simple machine work
- SOLIDWORKS CSWA
- 3D Printing
- Public speaking
- Trilingual (English & Arabic, conversational Spanish)

RELEVANT ACTIVITIES & PROJECTS

Teradyne Cartesian Robot and Tool-Changer — **Jan. 2023 – Present**

- Engineering a robot as the sole programmer to automate the mating of coaxial connectors during testing.

Turnafit Project — **Sept. 2018 – May 2021**

- Developed a biomedical device by using inflation mechanisms and blood clotting technologies to decrease blood loss on the way to a hospital.
- Researched and designed prototypes which were presented to EMTs, patent lawyers, and entrepreneurs to receive feedback.

Robotics - FRC Team 5813 "Morpheus" — **June 2017 - May 2019**

- Worked with senior engineers and mentors: designing, building, and testing software, electrical, and mechanical subsystems.
- Used PixyCam to help the robot autonomously track its target; this program won a "Design and Innovation" award.
- Mentored team Java proficiency and provide continued assistance with the development of the robot.