Leon Aharonian

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Portfolio: https://leonaharonian.github.io/Leon/index.html | LinkedIn: https://www.linkedin.com/in/leon-aharonian

EDUCATION

Columbia University, School of Engineering, Last 2 Years GPA: 3.93/4.00, Overall GPA 3.72/4.00 — New York, NY
B.S. Mechanical Engineering Major / Computer Science Minor, C.P. Davis Scholar — *Aug 2019 – May 2023*

Bronx High School of Science — Bronx, NY
High School Diploma, GPA: 96%, National Honor Society — *Aug 2015 – May 2019*

SKILLS

Robotics: ABB Robot Studio, RoboDK, Universal Robots programming, ABB rapid programming, SolidWorks
CAD: SolidWorks, Fusion 360, Altair Inspire, Engineering Drawings, Photorealistic Rendering, Animation, FEA, GD&T
Software: ABB Rapid, Matlab, Python, Java, Arduino, HTML & CSS, C, Linux, Bash
Electronics: Soldering, Wire management, Arduino, Raspberry Pi, Servo Motors, Board design
Machine Shop: CNC: Water jet, Laser cutter, 3D printer, Mill, Lathe | Manual: Band Saw, Chop Saw, Belt Sander, Drill

EXPERIENCE

General Dynamics Electric Boat, **Robotics Engineer**, *Quonset Point, RI & Groton, CT* — Jan 2024 – Present
- Led the integration of robotic technologies into production processes, ensuring alignment with operational goals and safety standards.
- Evaluated current systems and identified processes that could be implemented more safely and efficiently.
- Collaborated with vendors to design and implement cutting, grinding, and welding robots in a shipyard environment.
- Provided hands-on training and ongoing technical support to trade workers, enhancing the adoption and effective use of robotic systems.
- Designed custom torches and external axes for specialized applications, performed reach and feasibility studies, and optimized robot cell layouts utilizing RoboDK, RobotStudio, and SolidWorks.
- Managed relationships with global vendors (e.g., Universal Robots, ABB, Fanuc, Hypertherm, PushCorp) and stayed current on industry innovations by attending trade shows and tech expos.

Amazon Robotics, **Robotics Deployment Engineer**, *Travel to Fulfillment Centers* — Aug 2023 – Jan 2024
- Liaised between engineering, operations, and other stakeholders to ensure timely, efficient product installation and seamless operational transitions.
- Designed and optimized critical system components to proactively resolve integration issues, allowing the system to be implemented in five locations across the US.
- Documented these improvements and relayed them back to the design team so they could add them to all future deployments of this technology.

Creative Machines Lab (CML) at Columbia, **Research Student**, *New York, NY* — May 2022 – May 2023
- Designed and built a data pillow for elders to monitor vitals, alerting emergency contacts/911 if necessary [view here]

The Bronx High School of Science, **CAD Instructor**, *Bronx, NY* — Jul 2020 – Aug 2020
- Designed the curriculum, home assignments, and final project in Fusion 360
- Gave all the lectures and checked the homework for a class of 35 students

Robotics and Rehabilitation (RoAR) Lab at Columbia, **Research Student**, *New York, NY* — Jun 2017 – Apr 2019
- Created a comfortable Posture Monitoring Shirt (PoMS) that uses Machine Learning to generate posture-defining coordinate transforms based on electrical resistance from stretch sensors
- Awards: Regeneron STS Semi Finalist | NYCSEF Second Award in Engineering | NYCSEF Skanska Walsh Award | Sigma Xi 1st Place in Engineering | JSHS 2nd place | Winner of Milton Fisher Scholarship for Innovation and Creativity

FIRST Robotics, **Group leader / Design & Construction Team** *Bronx, NY* — Sep 2015 – Apr 2019
- Collaborated with the team to design and build a competitive robot for the FRC challenge
- Trained new team members in all stages of robot development

COLUMBIA UNIVERSITY ENGINEERING PROJECTS — *New York, NY*

Debris Elimination and Management Instrument (DEMI) – Senior Design [view here] — Sep 2022 – May 2023
- Partnered with NASA, JPL to create a mechanism for capturing 10-30cm space debris

Automated Robotic Linkage Mechanism – Machine Design [view here] — Fall 2022
- Worked in a team to design, build, and control a complex linkage mechanism
- Responsible for kinematic planning, creation of a detailed 3D model, and manufacturing.

Code Generated Designs – Digital Manufacturing [view here] — Spring 2023
- Writing G-code for Food 3d printing • Generating embroidery (JEF) files with Matlab for CNC embroidery
- Topology optimization with Altair Inspire • Designed an acrylic desk organizer by writing an SVG file in Python

EagleJackson the walking Biped – Robotics Studio [view here] — Spring 2022
- Designed, built, and programmed a walking bipedal robot