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, Gpa: 3.72/4.00 — New York, NY
B.S. Mechanical Engineering Major / Computer Science Minor, C.P. Davis Scholar — Aug 2019 - May 2023
Courses: Senior Design, Machine Design, Intro to Robotics, Robotics Studio, MechE Lab
Materials/Manufacturing, Computer Graphics, Dynamics, EE, CS

The Bronx High School of Science, — Bronx, NY
High School Diploma, National Honors Society, Gpa: 96% — Aug 2015 - May 2019

SKILLS

- CAD: Solid Works, Fusion 360, Altair Inspire, Engineering Drawings, Photorealistic Rendering, Animation
- Computerized Numerical Control: Water jet, Laser cutter, 3d printer, Mill, Lathe
- Manual Machines: Mill, Lathe, Drill press, Band saw, Horizontal band saw, Chop saw, Belt sander
- Software: Matlab, Python, Java, C, Linux, Bash, Arduino, Web development
- Electronics: Board design, Soldering, Wire management, Arduino, Raspberry Pi, Servo Motors

COLUMBIA UNIVERSITY ENGINEERING PROJECTS — New York, NY

Debris elimination and Management Instrument (DEMI), Senior Design [view here] — Sep 2022 - Present
- Partnering with NASA, JPL to create a mechanism for capturing space debris

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

Code Generated Designs, Digital Manufacturing [view here] — Jan 2023 - Present
- 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 • Food 3d printing

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

Solar Array Tracker, Mechanical Engineering Lab II [view here]
- Designed and built a two axis solar array tracker (Arduino, photo resisters, stepper/DC motors)

EXPERIENCE

Columbia University Creative Machines Lab (CML) — New York, NY
Research Student — May 2022 - Present
- Design and build a data pillow for the elderly to monitor vitals, alerting emergency contacts/911 if necessary [view here]

The Bronx High School of Science — Bronx, NY
CAD Teacher — 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

Columbia University Robotics and Rehabilitation (RoAR) Lab — New York, NY
Research Student — 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

The Bronx High School of Science
Group leader of the FIRST robotics team — Sep 2015 - Apr 2019
- Worked with my team to design and build a robot to efficiently complete all aspects of the FRC challenge
- Trained new team members in all stages of robot development

AWARDS

Columbia Research: Regeneron Science Talent Search (STS) Semi Finalist | New York City Science Engineering Fair (NYCSEF) Second Award in Engineering Category | NYCSEF Skanska Walsh Award | Sigma Xi First Place in Engineering Division | Junior Science and Humanities Symposia (JSHS) second place | Winner of the Milton Fisher Scholarship for Innovation and Creativity
Robotics: NYC Regional - Finalist - 2019 | Hudson Valley Regional - Finalist - 2017 | NYC Regional - Innovation in Control - 2017

SERVICE INDUSTRY JOBS

Whitewater raft guide: Browns Canyon, Arkansas River, CO — Summer 2021
Whitewater Kayaking Video Boating: New River, WV — Summer 2022

CLUBS / COMMUNITY SERVICE

Whitewater Kayaking: Treasurer — Sept 2019 - Dec 2022
Skiing: USCSA Alpine Racing Captain — Winter 2019/2021
Thendara Mountain Club (Harriman State Park): trail maintenance, trash pickup hike leader, sailing instructor