

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 two Years GPA: 3.93/4.00, Overall GPA: 3.72/4.00
B.S. Mechanical Engineering Major / Computer Science Minor, C.P. Davis Scholar
Courses: Senior Design, Machine Design, Intro to Robotics, Robotics Studio, MechE Lab,
Materials/Manufacturing, Computer Graphics, Dynamics, EE, CS

New York, NY
Aug 2019 - May 2023

The Bronx High School of Science,
High School Diploma, National Honors Society, Gpa: 96%

Bronx, NY
Aug 2015 - May 2019

SKILLS

- CAD: SolidWorks, Fusion 360, Altair Inspire, Engineering Drawings, Photorealistic Rendering, Animation, FEA, GD&T
- 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, Arduino, HTML CSS, C, Linux, Bash
- Electronics: Board design, Soldering, Wire management, Arduino, Raspberry Pi, Servo Motors

COLUMBIA UNIVERSITY ENGINEERING PROJECTS

Debris elimination and Management Instrument (DEMI), Senior Design [\[view here\]](#)

New York, NY
Sep 2022 - May 2023

- Partnered with NASA, JPL to create a mechanism for capturing 10-30cm space debris

Automated Robotic Linkage Mechanism, Machine Design [\[view here\]](#)

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 - May 2023

- 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 resistors, stepper/DC motors)

EXPERIENCE

Columbia University Creative Machines Lab (CML)

New York, NY
May 2022 - May 2023

Research Student

- Designed and built 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
Jul 2020 - Aug 2020

CAD Teacher

- 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
Jun 2017 - Apr 2019

Research Student

- 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

Sep 2015 - Apr 2019

Group leader of the FIRST robotics team

- 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