

EDUCATION

Rensselaer Polytechnic Institute, Troy, NY; GPA 3.57/4.00.

2016 – 2019

- Bachelor of Science, Mechanical Engineering.

PROFESSIONAL EXPERIENCE (18 months)

The Raytheon Company, Intelligence Information, and Services Division: *Mechanical Engineering Intern*

May – Aug. 2018

- Designed and machined custom components.
- Developed concepts and performed industry trade studies for specialized technologies and devices.

MagneMotion, a Rockwell Automation Company: *Co-op Mechanical Hardware Engineer*

Jan. – May 2018

- Led international team to develop trade show demonstration of key product line.
- Performed R&D on state-of-the-art components for upcoming product line.
- Led development of \$20k custom internal testing system.
- Designed mass-produced sales demo system to save the sales team time and decrease shipping costs.
- Completed Failure Analysis and Corrective Action (FACA) studies directly for customers.

Sandia National Laboratories, SEERI AGT Accelerator Operations: *Research and Development Intern*

May – Aug. 2017

- Developed critical automatic data processing program, saving operator time for a \$10,000/day particle accelerator.
- Published paper in IEEE Pulsed Power Conference proceedings.

Lighting Enabled Systems and Applications (LESA) Center: *Programmer and Data Analyst*

Feb. – May 2017

- Developed processes and cloud data system for a novel horticultural sensor.
- Presented poster at Rensselaer Undergraduate Research Symposium.

Summer Trails Day Camp: *Counselor*

June – Aug. 2014

SKILLS

<i>CAD</i>	Highly experienced in Solidworks, Fusion 360, OnShape, Autodesk Inventor, and Siemens NX. Skilled at modeling detailed curvature and performing finite element analyses. Experience designing both small and large fixtures and systems in CAD.
<i>Machining</i>	Hundreds of hours of experience working with manual machine shop equipment including laser cutters, waterjets, lathes, mills, drills presses, and saws.
<i>Programming</i>	Highly experienced in Python (NumPy, Pandas, SciPy), experience in C. Proficiency integrating low level protocols including PWM, I2C, UART, and Serial. Experience with MATLAB and LabView.
<i>Electrical Engineering</i>	Experience in soldering, component- and system-level design, and general electrical engineering.
<i>Communication</i>	Strong ability to articulate thought process; listens deeply and empathetically to users and leadership.
<i>Team Leadership</i>	Led multidisciplinary teams in class and out of class and at 12 hackathons and makeathons, including events at MIT, Stanford, Harvard, and the Vatican.

SELECTED RESEARCH EXPERIENCE

Repurposing SiGe stressors on FinFET transistors for thermoelectric heat dissipation

Fall 2016

- Conceived and explored novel application for thermoelectric materials already in use in semiconductors.

Thermal and wave propagation effects in constrained carbon nanotube yarns towards their use as strain sensors

Summer 2016

- Fabricated production samples and developed experimental apparatus.

Mechanical Improvements to the Thermomagnetic Generator

2015 – 2016

- Constructed functional thermomagnetic generator and measured operational efficiency.

SELECTED PROJECTS

<i>WallPaint</i>	A robot that paints patterns and solid colors on walls. Built at MakeHarvard 2018, continued at MakeMIT 2018.
<i>Pathways</i>	A distributed mapping system to route cars efficiently in surge traffic conditions. Built in 24 hours during HackMIT 2017. Winner of “Best Use of Location Data”, “Best Hack with Startup Opportunity”, and Moonshot prizes.
<i>Polarigo</i>	A smart belt that helps the blind navigate and orient themselves using magnetic North as a reference point. Built in Inventor’s Studio I course, 2017.
<i>HermeSee</i>	An IoT-enabled pair of shoes that helps the blind avoid obstacles by vibrating when an object is detected in front of them. Built in 36 hours during MHacks at the University of Michigan, 2017.

AFFILIATIONS

American Society of Mechanical Engineers: Treasurer, member of Robotics Team. Designed soccer-playing robot for competition.

Embedded Hardware Club: Member, 4 years. Created Raspberry Pi-controlled virtual assistant and mechatronic Halloween props.