

EDUCATION

Rensselaer Polytechnic Institute, Troy, NY; GPA 3.57. Junior academic standing. Graduating December 2019.

- Bachelor of Science, Mechanical Engineering.

PROFESSIONAL EXPERIENCE (15 months)

Raytheon: Incoming Mechanical Engineering Intern

May – Aug. 2018

- Rapid prototyping and product development in the Intelligence, Information, and Services division.

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

Jan. – May 2018

- Lead international team to develop sales and trade show demonstrations of our product.
- Performed R&D on highly specialized components for upcoming product line.
- Completed Failure Analysis and Corrective Action (FACA) studies for customers.

Sandia National Labs SEERI Above Ground Testing Accelerator Operations: Research and Development Intern

May – Aug. 2017

- Independently developed a Python-based data analysis, file processing, and visualization program for use with the HERMES III and Saturn particle accelerators at Sandia National Laboratories.
- Published paper in IEEE Pulsed Power Conference proceedings.

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

Feb. – May 2017

- Independently authored feedback loop process in Python for a novel horticultural sensor.

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.

Examining relationships between science literacy and political orientation

Summer 2016

- Used Python to analyze and correlate massive datasets to learn about national voting patterns.

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 wrote Python feedback loop to optimize its efficiency.

SELECTED PROJECTS

<u>WallPaint</u>	A robot that paints patterns and solid colors on walls. Built V1 at MakeHarvard 2018, built V2 at MakeMIT 2018.
<u>Pathways</u>	An algorithm to route cars efficiently in surge traffic conditions. Built at HackMIT 2017. Winner of “Best Use of Location Data”, “Best Hack with Startup Opportunity”, and Moonshot prizes.
<u>FlyFoto</u>	An iPhone case and app that allows the iPhone to perform drone photography without needing a drone. Built at PennApps 2017 at the University of Pennsylvania.
<u>Polarigo</u>	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.
<u>HermeSee</u>	A smart pair of shoes that helps the blind avoid obstacles by vibrating when an object is detected immediately ahead. Built at MHacks at the University of Michigan, 2017.
<u>FlighTour</u>	An iPhone app that alerts airplane passengers to take a look out of the window when they fly over an interesting landmark. Built at TreeHacks 2017 at Stanford University.
<u>Trump Speech Simulator</u>	A humorous natural language processing web app that stitches compilation videos from a database of Trump rally and speech videos. Built at McHacks 2017 at McGill University. Winner of “Lost their Marbles” prize.
<u>Jigsaw 2.0</u>	A modular, infinitely expandable jigsaw puzzle game that uses sensors and algorithms to illuminate a grid of LEDs. Built at HackHarvard 2016.

SKILLS

<u>Rapid Prototyping</u>	Experience using several models of 3D printers. Experience with lathes, mills, arc welding, thermoplastic forming, waterjets, and laser cutters. Experience designing for manufacturing.
<u>CAD</u>	Experience with Solidworks, Fusion 360, OnShape, Autodesk Inventor, Siemens NX 10, Photoshop, GIMP.
<u>Programming</u>	Specialty in Python programming, including experience with scientific packages NumPy and pandas. Proficiency with C, C++, SQLite3, HTML, CSS, and JavaScript.
<u>Embedded Systems</u>	Proficiency with writing C code and using Bluetooth, PWM, I2C, UART, Serial, and other low-level protocols. Proficiency in soldering, constrained design, and general electrical engineering.

AFFILIATIONS

American Society of Mechanical Engineers: Treasurer, member of Robotics Team. Designing soccer-playing autonomous robot.

Embedded Hardware Club: Member, 2 years. Created Raspberry Pi-controlled virtual assistant and mechatronic Halloween props.