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## Education

**Worcester Polytechnic Institute (WPI), Worcester, MA**  
**Bachelor of Science in Mechanical Engineering, Minor in Physics, Class of 2016**

## Experience

### **Draper Laboratories Engineer, May 2016-Present**

Contributed to microservice web application built from Python, Redis, Elasticsearch, and Postgres. Deployed as a multi-container application with Docker and docker-compose.

Member of agile team developing distributed computing system to qualify SNC Dreamchaser Flight Computers. Includes multiple server applications controllable through standardized TCP/IP API for Data Acquisition, DC Power, Serial Comms, GPS Timing & Sync, Digital IO and more.

Initiated and developed Data Dashboard application for remote monitoring of system operation. Python back-end (Flask) pulls data from test equipment monitoring APIs. Front-end rendered with jQuery, Bootstrap, and Bulma.io frameworks.

Resolved project contention by virtualizing compute resources. Task required developing and maintaining virtual infrastructure hardware, operating systems, virtual machines and networking with Microsoft Hyper-V.

Accelerated project workflow by developing GitLab continuous integration CI/CD pipelines to automate python package build, test and deployment.

Programmed suite of automated Verification & Validation pytest unit tests to expedite software integration.

Lead developer of MATLAB data processing/visualization application used by program engineers to investigate accelerometer sensor operation/performance.

Mechanical design/drafting with Solidworks and CREO. Projects include design of accelerometer test fixture, cable/shorting plug drawings + rapid prototype card edge connector harness.

D.O.D. Secrete Clearance, 2016

### **U.S. Fish & Wildlife Service Biological Intern, May 2014 – August 2014**

Lived and worked in national wilderness as team member monitoring endangered shorebird populations. Monomoy National Wildlife Refuge in Chatham, MA.

### **CT Agricultural Experiment Station Plant Pathology Intern, October 2011 – June 2012**

Internship with CT Agricultural Experiment Station's Department of Plant Pathology, conducted experiments investigating *Sudden Vegetative Dieback* of Connecticut salt marshes.

## Projects

### **Personal Software Projects**, <https://github.com/JosephSamela>

Beautiful Lego Mosaics, IOT weather station and tickerboard, Microcontrollers, Browser Extension, CLI password manager, Android applications published to the Google Play store(500+ downloads), and more!

### **Major Qualifying Project**, Airborne Wind Energy, May 2015 – November 2015

Member of a 4-person team, developed a low-cost water pump system for impoverished rural communities that operates using airborne wind energy. Produced accurate 3D models to expedite an iterative design process. Conducted flight-testing at Blue Hills Observatory in Milton, MA.

### **Interactive Qualifying Project**, Costa Rica, San Jose, March 2015 – May 2015

Developed financing strategies for Ener-G Tech Investments to encourage energy efficiency projects including carbon offset credits, sustainable banking and crowdfunding. Conducted interviews with domestic and international industry professionals to fast track development of new policies that benefited all parties.

## Technical Skills

**Programming Languages:** Python, HTML/CSS/Javascript, MATLAB, LabVIEW, Processing 3.0/Java, Arduino

**Software:** Solidworks, Creo (Pro-E), Linux, GIT, SVN, JIRA & Confluence, Hyper-V, Photoshop, Premiere

**Certifications:** Solidworks CSWA Certification, Licensed Radio Operator: Technician, First Aid & CPR, Personal Watercraft License