Sam Lewando

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Work Experience

Garden Site Lead
April 2019 - Present

Cultivate the City
Washington, D.C.

- Oversee and maintain 3,500 sq. ft. urban farm within Washington, D.C. that provides local produce through a CSA.
- Manage four interns from Gallaudet University working 120 hours per week combined on both farm tasks and projects.
- Helped to organize, promote and host Cultivate the City Strawberry Festival DC with over 300 people involved.
- Learn about native plant species, pollinators, common diseases and remedies and apply this knowledge to improve yields.

Mechatronics Engineer
January 2019 - June 2019

Anacostia Aquaponics
Washington, D.C.

- Design and build hydroponic and aquaponic systems on several rooftop locations in the D.C. Region.
- Operate and maintain these commercial hydroponic and aquaponic systems once in use.
- Partner with local schools to build aquaponics systems and incorporate hands-on learning into their curriculum.

FreeFlyer Intern
June 2017 - August 2017

a.i. Solutions, Inc.
Lanham, MD

- Developed C# application to automate performance testing of newer versus older FreeFlyer software versions.
- Created other applications demonstrating functionality of Runtime API in C#, Java, C, C++, Python and Matlab.
- Supported prototyping and testing of autonomous drone payload with team working on business expansion.

Design & Test Engineering Intern
June 2016 - November, 2016

Eaton Corporation
Beltsville, MD

- Designed & implemented mechanical and electronic improvements for automated testing rig of high-pressure, high-temperature ducting. Actuation and data collection controlled by PLCs and LabView software.
- Designed new seals products for major aerospace customer, using CAD, in-house design tools and FEA simulation to improve product performance. Owned project as it moved through document approval and control process.
- Coordinated in-house and external vendors to produce prototypes of multi-component ducted joint of new material to Eaton. Gathered requirements to improve part's design for manufacturing (DFM), specifically welding.
- Tested these prototypes and analyzed results to determine viability of commercial product and parameters for mass manufacture using new material. Wrote and followed testing and safety procedures for part validation.

Project Experience

Lidar Mapping Course Project
January 2018 - May 2018

Special Topics in Mechanical Engineer; Remote Sensing
College Park, MD

- Learned remote sensing and LiDAR fundamentals. Attended guest lectures delivered by remote sensing professionals.
- Built low-cost LiDAR sensor with 3D-printed frame, line laser and Raspberry Pi with camera for mapping target.
- Used OpenCV to capture images and clean them for processing in Matlab. This Matlab script was then used to generate 3-dimensional point cloud, which was transformed into a surface mesh with MeshLab software.

Caterpillar Authentication Consulting - QUEST Capstone
August 2017 - December, 2017

Development team lead, client point of contact
College Park, MD

- Consulted with Caterpillar Inc. over the course of the semester on password replacements for honors program capstone.
- Led collaboration with computer science team to develop authentication prototype on both web and Android platforms.
- Project will save Caterpillar $2.2 million over 3 years, and improve customer experience and retention.
- Team presented to CIO, CISO, HR head & other managers with positive reception and implementation by EOY 2018.
- Won Most Outstanding Capstone out of 7 teams, as well as voted Best Poster. 1st team to win both in program history.

Education

University of Maryland
May 2018

BS, Mechanical Engineering with Honors (GPA: 3.5)
College Park, MD

-QUEST Honors Program (citation May 2018)
-Science, Technology and Society Scholars Program (citation May 2016)

Skills

- Proficient programming in multiple programming languages: Python, C#, C/C++, Matlab
- Hardware development on low cost platforms such as: Raspberry Pi, BeagleBone, ESP8266 & Arduino
- Comfortable designing in CAD software such as: Autodesk, Creo Parametric, CATIA, Solidworks
- Excellent at professional communication with presentation tools including Microsoft Office and Google suites