Sam Lewando

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Work Experience

Mechanical Engineer
August 2019 - Present

Babylon Microfarms — Charlottesville, VA

- Lead mechanical design for micro-farm components and subsystems, including new units and retrofits to current farms.
- Manage general electromechanical hardware projects for new product development.
- Design and assemble prototypes to test new components for compatibility and reliability in the farm using a mix of conventional and rapid prototyping techniques.
- Work directly with manufacturers to design and source reliable components and keep up with fast pace of installations.
- Install and perform maintenance visits for the first installations of micro-farm units, coordinating with suppliers, technicians and colleagues in electrical engineering, software engineering, and plant science.

Garden Site Lead
April 2019 - July 2019

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 new business expansion.

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
- 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

- Hardware development on low cost platforms such as: Raspberry Pi, BeagleBone, ESP8266 & Arduino