Lee Milburn

Computer / Software Engineer

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WORK

Autonomous Systems Co-Op / Jul 2021

Scientific Systems - Woburn, MA
Developed Algorithms for multi-target pursuit evasion. Created AI task determining structures for a new company project SRM. Integrated kinematic and sensor models with various simulation frameworks. Rebuilt SESU's code infrastructure, allowing for autogeneration of CMA extensions connection to AFSIM.
C++ Python Protobuf Json Bitbucket Bash

Sales Engineer / July 2020 - December 2020

United Electronics Engineering - Waltham, MA
Benchmark tested UEI's hardware to determine the max throughput, Developed application stories for previous UEI projects.
Testing Principles Bash

Product Intern / Jun 2019 - August 2019

BrainQ Technologies- Jerusalem, Israel
Improved EMG physical therapy product through testing and creating designs. Researched the start-up market to provide information for initiating Series B funding
Teamwork Start Up Culture Agile Environment

PROJECTS

- **Mars ISRU** A team of students researching a solution to NASA's proposed Mars IRSU problem. Head of robotics team of NASA's RASC-AL competition, researching how swarm bio-robotics can be used to create a sustainable and scalable ISRU.
- **Personal Website** a Github Pages website, a modified open source template. - **(Git, HTML)**
- **Hack the Normal: For Africa by Africa**, developed and designed a mobile electricity hub for a South African Hackathon - **(C++, circuit design, Arduino, S.O.A.R.)**
- User Manipulated Animator using **Model View Controller** principles. - **(Java.awt)**.

SKILLS

Languages: Python, C++, Java, ROS, Bash, MATLAB, SQL, Verilog, LaTex
Apps: SolidWorks, Docker, 3D Printing, MySQL, AutoCAD, Simulink, PSpice, phpMyAdmin, GitHub, BitBucket
Electrical: Digital Multimeter, Oscilloscope, Arduino, Protoboard Circuit Design, Basic Soldering, Wiring

EDUCATION

Northeastern University - Boston, MA - 2023

GPA 3.75
BS, Computer Engineering & Computer Science
Honors/Activites Northeastern Achievement Award, RASCALs, Jewish Student Union, Disability RC Note-taker
CourseWork Object-Oriented Design || Embedded Design: Enabling Robotics || Algorithms || Fundamentals of Electronics || Database Design || Circuits and Signals: Biomedical Applications || Probability and Statistics

Classical HighSchool - Providence, RI - 2017

GPA 4.00
Honors/Activites Summa Cum Laude, Latin Diploma with Distinction, Varsity Club Award, MVP Award, Chess Team Captain, Track

RESEARCH

- **IROS Terrain Classification** integrating hardware with sensors and using machine learning to classify terrain types.
- **T.R.A.S.H (Tandem Rover & Aerial Scrap Harvester)** Autonomous heterogeneous system to identify and pick up trash. Using Machine Learning to identify images with trash in them **(YoLO)**, SLAM for the UAV to build a map for the UGV to move through **(OrbSlam 2)**, networking to transfer the map **(ROS)**, Path Planning to travel within the map , and Computer vision for the UGV localization **(OpenCV)**.
- **ACE PPE Project** Designed and Constructed tests, across different teams, according to industry standards **(3D Modeling)**, Created complex circuits on breadboard and soldered onto PCB **(Arduino, soldering, wiring)**, Created a ROS node framework to allow the tests to function autonomously **(RosPy, RosCpp)**, Built and integrated Arduino node into ROS framework **(RosCpp, Rosserial)**, Developed Computer Vision to make basic decisions using ROS compatible camera **(openCV)**. Developed the GUI **(KivyMD)** to specify which test the arm should run.

ACTIVITIES / INTERESTS

Backpacked Southeast Asia, Half Marathon, Chess, Basketball, Music, Cooking, Hebrew, Volunteering.