Lee Milburn

Computer / Software Engineer

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WORK

Autonomous Systems Co-Op / Jul 2021 - July 2022

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** Wrote a proposal using swarm robotics for NASA's RASC-AL ice competition.
- **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, Git

Electrical: Digital Multimeter, Oscilloscope, Arduino, Protoboard Circuit Design, Basic Soldering, Wiring

EDUCATION

Northeastern University - Boston, MA - 2023

GPA 3.78
BS, Computer Engineering & Computer Science
Honors/Activites Northeastern Achievement Award, Fung Award, RASCAL, Jewish Student Union, Disability RC Notetaker
CourseWork Software Engineering || Object-Oriented Design || Embedded Design: Enabling Robotics || Algorithms || Fundamentals of Electronics || Computer Systems || Circuits and Signals: Biomedical Applications || Probability and Statistics

RESEARCH

Vinum / July 2022

Dynamic Legged System Lab - Genova, Italy
Developed navigation stack for quadruped robot to autonomously navigate a vineyard in a de-structured environment. Uses Machine Learning to identify grapevines to prune.
MASK-RCNN Detectron2 ROS

VAST / January 2022 - March 2022

RIVeR Lab - Boston, MA
Wrote networking and collected data for system which uses RGB-D and Hyperspectral data to classify terrain types in real-time. Contributor to paper accepted to IROS 2022.
ROS CNN PyTorch

TRASH / June 2021 - April 2022

Northeastern University - Boston, MA
Autonomous UAV - UGV system to identify and pick up trash. The system combines Computer Vision, Machine Learning, Mapping, Networking and a custom designed collection mechanism. Won first in ECE Capstone Competition. First author on paper submitted to DARS 2022.
YoLO Orbslam ROS openCV

ACE PPE / September 2020 - June 2021

RIVeR Lab - Boston, MA
Designed and constructed autonomous material tests according to industry standards. Wrote the system's networking, decision making, and GUI. Designed and fabricated two of the automated tests. Author on paper accepted to IEEE-HST 2022.
Arduino Soldering PCB Design ROS openCV