



## 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 ISRU 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/Activities** 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/Activities** 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.