LINDSEY H. WOO

617-515-1117 lindseyhwoo@gmail.com
https://lindsey-woo.github.io/

EDUCATION

Cornell University, Ithaca, NY — May 2021
*Master of Engineering in **Mechanical Engineering**, Concentration in **Dynamics, Controls, and Robotics***
Related Courses: Model-Based Estimation, Autonomous Mobile Robots, Multivariable Control Theory, Dynamics
GPA: 3.87 / 4.00

Northeastern University, Boston, MA — May 2019
*Bachelor of Science in **Electrical Engineering***
GPA: 3.79 / 4.00

SKILLS

Hardware: Oscilloscope, Function Generator, Dynamic Signal Analyzer, Logic Analyzer, Network Analyzer, Soldering, Wire crimping/cutting, Arduino, MSP430, Raspberry Pi
Software: C/C++, MATLAB/Simulink, ROS, Gazebo, RViz, Python, Linux, Altium, LTSpice, Git, I2C, UART, SolidWorks, AutoCAD, HTML, CSS

WORK EXPERIENCE

Cornell University Autonomous Systems Lab, Ithaca, NY — June 2021 - Present
Research Assistant

- Researched next-best-view path planning for uncertain environments and modified C++ code and ROS files to implement the algorithm on Clearpath Robotics' Jackal UGV robot
- Conducting experiments for next-best-view planner against a baseline A* planner in both real and simulated environments

Raytheon Space and Airborne Systems, El Segundo, CA — July 2019 – July 2020
Electrical Engineer I

- Integrated controller loop firmware and hardware into flight-ready system and fine-tuned parameters for optical and thermal loops, power levels, laser optics, and SpaceWire communication through LabView
- Analyzed schematics to calculate desired parameters for thermoelectric cooler feedback controller loops and used dynamic signal analyzers to obtain Bode plots to troubleshoot and achieve phase and gain margin system requirements
- Conducted efficiency tests on motor controller boards, collected and compiled data, revised test procedures, and investigated and located errors to increase power efficiency by 9%

Accion Systems, Boston, MA — July 2018 – December 2018
Electrical Engineering Co-op

- Designed and developed constant current source PCB to simulate load current to test current sensors, prototyped various circuit designs, conducted simulations in LTSpice, captured schematic layout in Altium Designer, and documented trade studies and testing procedures

Piaggio Fast Forward, Boston, MA — July 2017 – December 2017
Embedded Software Co-op

- Developed firmware in C for capacitive sense board using I2C and interrupt functions from the MSP430 to control LED driver, haptic feedback, Adafruit Neopixels, and capacitive touch buttons
- Constructed wiring harnesses, installed power components, and performed electrical verification tests for electrical assembly and troubleshooting of autonomous cargo-carrying robot

RESEARCH EXPERIENCE

Localization of a Jackal Robot, Cornell University — Fall 2020
Autonomous Systems Lab

- Implemented and compared accuracy of SLAM methods on Clearpath Robotics' Jackal UGV robot
- Wrote ROS launch files to incorporate LIDAR, ZED stereo camera, wheel encoders, and IMU sensors and output real-time mapping using SLAM algorithms and an Extended Kalman Filter for sensor fusion and localization

Capstone Design Project, Northeastern University — Spring 2019
Autonomous Visual Navigation and Mapping Search and Rescue Drone

- Built a drone system that autonomously navigates a forest trail to locate a person of interest with 3 group members using NVIDIA's RedTail neural networks, IMU mapping with MATLAB, and LoRa communication protocol