Audrey W. Lee

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Skills

Programming Languages

- Python
- C++/C#
- Java
- HTML

Software

- SolidWorks
- Autodesk Inventor/Revit
- Unity
- MATLAB
- Mathematica
- Arduino
- Adobe Photoshop/Illustrator

Machine Shop

- Laser Cutter
- 3D Printing
- Drill Press
- Band Saw
- Scroll Saw
- Belt Sander
- Resin 3D Printing

Additional Interests

- Robotics
- Entrepreneurship
- Playing Piano & Violin

Awards

- Clare Boothe Luce Research Award (2021-2022)
- Massachusetts Space Grant (2021-2022)

Education

Olin College of Engineering **Expected Graduation - May 2022**

- Bachelor of Science in Electrical and Computer Engineering.
- Recipient of 4-year, 50% Olin Merit Scholarship
- GPA: 3.93

Experience

Olin Satellite + Spectrum Technology & Policy Group **Oct. 2020 - present**

Satellite Communications Undergraduate Research, Olin College of Engineering, Needham, MA

- Designed EPFD measurement tool in MATLAB to quantify interference from NGSO satellite communications systems into geostationary systems
- Researched algorithms for mitigating interference into passive science users and developed MATLAB tool for quantifying interference into Radio Astronomy Services (RAS) systems

Human Interactive Robotics Laboratory **Sept. 2018 - present**

Leader; Robot Perception Undergraduate Research, Olin College of Engineering, Needham, MA

- Leading a team to program robotic arms to interact with the physical world.
- Programmed robotic arms to compete against humans in chess
- Lead a project geared towards object detection and location in a 3D space that involves Reinforcement Learning with object localization

Data Structures & Algorithms **Jan. 2021 - May 2021**

Teaching Assistant, Olin College of Engineering, Needham, MA

Assisted with teaching different sorting algorithms, data structures, path-finding algorithms, proofs, and dynamic programming

Website Design **Summer 2020**

Northern California

Designed and created a website for a small business owner to gain more clients and share information about their service.

Spatial Computing Laboratory **Jan. 2019 – Feb. 2020**

Augmented Reality Undergraduate Research, Olin College of Engineering, Needham, MA

- Using Unity and C#, created an AR experience that focuses on consumer interactions with the AR program and other consumers
- Lead Machine Learning sub-team to overlay and match models with real-world objects.

iD Tech Camp **Summer 2019**

STEM Camp Instructor, Northern California

Taught Machine Learning in Python and Vex Robotics in C++ to children ages 10-18 at several Northern California locations

Projects

Data Structures and Algorithms Course **Apr. 2020 - May 2020**

Maze Generation and Traversal Project

Implemented Depth First Search, Breadth First Search, and an A* algorithm to traverse randomly generated mazes.

Principles of Engineering Course **Oct. 2019 - Dec. 2019**

Castle of Air Project

Using an Arduino, created, designed, and prototyped a PCB that filters and amplifies sound waves. Using Arduino's IDE, performed Fourier Transform on the sound waves to extract frequencies and their respective amplitudes.