Amelia Lobo

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Education

Carnegie Mellon University — Pittsburgh, PA
Bachelor of Science in Electrical and Computer Engineering — *May 2025*

- GPA: 3.79/4.00
- Dean's List: Fall 2021, Spring 2022

Coursework

Computer Science: Intro to Computer Systems (C), Principles of Imperative Computation (C), Fundamentals of Programming and Computer Science (Python)
Mathematics: Discrete Math, Linear Algebra and Vector Calculus, Calculus in Three Dimensions
Engineering: Physics II for Engineering Students, Intro to Electrical and Computer Engineering

Technical Skills

Languages: C, Python, C0 Bytecode, MATLAB, HTML/CSS, R
Tools: Valgrind, gcc static analysis, Makefile, REST APIs (Spotify Web API), Tkinter, Matplotlib
Algorithms: big-O, searching, sorting, amortized analysis, hashing, tree/graph traversal
Data Structures: stacks, queues, linked-lists, dictionaries, BST, PQ, graphs (directed, weighted), union-find
Software: SolidWorks, LaTeX, VS Code

Projects

Spotify Insights | *Python, Spotify Web API, Tkinter, Matplotlib* — March 2022 - April 2022

- Developed an application using Spotify Web API that scrapes a Spotify User's listening habits, creates a graph-based recommendations playlist, and adds it to user's Spotify account
- Allows two users to compare and view listening insights and generates blended playlist based on listening data

Virtual Machine | *C* — May 2022 - June 2022

- Stack-based VM which executes C0 bytecode, post-fix math operations, loops and conditional control-flow, new stack per function call, heap operations

AM Radio | *Digital Oscilloscope* — November 2021 - December 2021

- Transmitter and receiver using oscillator, modulator, low-pass filter; tested with AM radio, speaker on receiver

Swerve Drive Module | *SolidWorks* — January 2021 - May 2021

- Designed functional swerve drive module using SolidWorks (drive system that allows each wheel to rotate while also pivoting on its vertical axis), led team of 6 to fabricate (using CNC, bandsaw, metal lathe), assemble, test module

Experience

Teaching Assistant — January 2022 – May 2022
CMU, Electrical and Computer Engineering Department — *Pittsburgh, PA*

- Teaching assistant for Intro to Electrical and Computer Engineering course comprised of 150 undergrad students
- Facilitated two weekly lab group meetings of 5 students, taught and reinforced course material
- Held weekly office hours, aided in grading homework and labs, drafting and proctoring exams

Research and Development Summer Intern — June 2019 – August 2020
NC State, Computer Science Department — *Raleigh, NC*

- Developed Snap!-based educational software programs and lesson plans for 170+ NC and SC K-12 teachers

Director of Engineering — August 2017 – June 2021
FIRST Robotics Competition — *Cary, NC*

- Led 30-member team in design, fabrication, assembly, testing of 120-pound robots
- Administered mechanical and specialized tool training for rookie team members

Honors & Awards

FIRST Robotics Competition Dean's List Finalist: 2020
NCWIT Award for Aspirations in Computing, Regional Award Winner: 2020