AMELIA LOBO

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EDUCATION

CARNEGIE MELLON UNIVERSITY Pittsburgh, PA
B.S. in Electrical and Computer Engineering (GPA: 3.71) May 2025

EXPERIENCE

VOLVO GROUP Greensboro, NC
Driver Interaction & Connectivity Intern May 2023 - Aug. 2023

- Designed and developed RaspberryPi-based tractor-trailer integration app to provide driver with real-time data and warnings on Android tablet
- Utilized Serial and CAN python libraries to receive, decode, and parse CAN messages and integrate formatted data with Android tablet python app
- Designed and developed hardware and software for Start/Stop Button (SSB) and Heads-Up Display (HUD) for upcoming truck dashboard kiosk using Arduino and programmable relay module
- Created and implemented gear position state machine for kiosk SSB and forward collision warning state machine for kiosk HUD

CARNEGIE MELLON UNIVERSITY Pittsburgh, PA
Teaching Assistant | **ECE Department** Jan. 2022 – May 2022

- Taught and reinforced course material for "Introduction to Electrical and Computer Engineering" course comprised of 150+ undergraduate engineering students
- Held weekly office hours and small group meetings, aided in grading homework and labs, and drafting and proctoring exams

NC STATE UNIVERSITY Raleigh, NC
Research & Development Intern | **CS Department** Jun. 2019 – Aug. 2020

- Developed Snap!-based educational software programs and lesson plans for 170+ North Carolina and South Carolina K-12 teachers

PROJECTS

SPOTIFY INSIGHTS Mar. 2022 - Apr. 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
- Implemented feature allowing users to compare and view listening insights and generates blended listening playlist

SWERVE DRIVE MODULE Jan. 2021 - May 2021

- Designed, fabricated, and assembled functional swerve drive module (drive system that allows wheel to rotate as well as pivot on its vertical axis) using Solidworks, CNC, bandsaw, metal lathe

ACTIVITIES

SWE | **STEM CAREER FAIR COMMITTEE** Jun. 2023 - Sep. 2023

- Facilitated student and faculty communications for STEM Career Fair (SCF), the largest career fair at Carnegie Mellon with 80+ companies present

COURSEWORK

Logic Design & Verification (Fall '23)

Computer Security (Fall '23)

Structure & Design of Digital Systems

Computer Systems

Electrical Devices & Analog Circuits (Fall '23)

Discrete Mathematics

Linear Algebra & Vector Calculus

SKILLS

LANGUAGES
C, SystemVerilog, Python, x86 Assembly, HTML/CSS, MATLAB, R

EMBEDDED SYSTEMS
FPGA, RaspberryPi, Arduino

SOFTWARE
Quartus Prime, CANalyzer, SolidWorks, Jira, Confluence

PROTOCOLS
CAN, UART, HTTP/REST, Bluetooth

TOOLS
gdb, valgrind, git, gcc, make

PYTHON LIBRARIES
serial, usb, threading, requests, numpy, spotipy

AWARDS & HONORS

College of Engineering Dean's List: Spring 2022, Fall 2021

2020 FIRST Robotics Competition Dean's List Finalist

2020 NCWIT Award for Aspirations in Computing, Regional Award Winner