

Lila Smith

Electrical Engineer

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EXPERIENCE

COMMONWEALTH FUSION SYSTEMS | INSTRUMENTATION & CONTROLS INTERN

Summer 2023 | Devens, MA

- Designed custom multichannel PCBs for a data acquisition system, reducing rack space by 66% and costs by over 12%
- Ensured my design's power supply met sensitive device specifications and identified improvements with Fourier analysis
- Developed software and firmware for quality control and established testing procedures for an STM32-based power system controller

OLIN BAJA SAE TEAM | ELECTRICAL LEAD

September 2020 to present | Needham, MA

- Lead six-person electrical subteam for offroad vehicle team
- Designed microcontroller PCBs for Hall effect and ride height sensors communicating via CAN Bus
- Developed embedded C++ code to record Hall effect sensor and ride height sensor input for data collection
- Created curriculum for new members to learn basic skills of electrical engineering including filter design, lab equipment usage, and firmware development
- Redesigned file system with standardized components and version control using Git for Electrical Subteam

SHAPER TOOLS | ELECTRICAL ENGINEERING INTERN

Summer 2022 | San Francisco, CA

- Designed and tested PCBs using RP2040 microcontrollers for factory line calibration and quality assurance
- Developed embedded MicroPython to interface with factory software and sensors
- Troubleshooting using root cause analysis for both hardware and software bugs
- Developed embedded C++ for lifetime cycle testing rig

OSHKOSH CORPORATION | ELECTRIFICATION ENGINEERING INTERN

Summer 2021 | Oshkosh, WI

- Designed CAN J1939 architecture and DBC files for battery-electric vehicle
- Automated datalogger downloads, reducing work time needed for data by 75%
- Standardized wiring for charging inlets on plug-in vehicles
- Communicated with suppliers to evaluate purchases and receive technical help

PROJECTS

INVERTED PENDULUM

CONTROLLER | SIMULINK, C++

Simulated and implemented embedded PID controller for inverted pendulum using pole placement.

FERROFLUID DISPLAY | KICAD, C++

Designed, assembled, and tested electromagnet array controller PCB in under four weeks for a ferrofluid tank's 16-pixel display.

REINFORCEMENT LEARNING (RL)

| PYTHON

Trained RL agent to play Snake game using only pandas, pygame, and numpy. Longest length: 39.

SKILLS

HARDWARE

Altium • KiCAD • SystemVerilog • Magic EDA • LVS • SPICE • SolidWorks • Onshape

SOFTWARE

Python • MATLAB • Simulink • C++ • ROS

TOOLS

Git • L^AT_EX • Pick-and-Place • Laser Cutter • CNC Router

EDUCATION

OLIN COLLEGE OF ENGINEERING

BACHELOR'S IN ELECTRICAL AND COMPUTER ENGINEERING
Sep 2020 - May 2024 | Needham, MA
GPA: 3.95 / 4.0

RELEVANT COURSES

Microelectronic Circuits
Computer Architecture
Mixed Analog-Digital VLSI
Signals & Systems
Machine Learning

COURSE ASSISTANT

Analog and Digital Communications
Discrete Math
Sensors, Instruments, & Measurements