

Alexis Obu

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PROFESSIONAL SUMMARY

Electrical Engineering and Computer Science student with strong embedded systems experience in FPGA and microcontroller development. Proficient in communication protocols (SPI, I2C) and embedded C/C++ and python programming. Eager to learn PCB design. Seeking Co-op positions for Fall 2025 and Spring 2026.

EDUCATION

Tufts University, School of Engineering: B.S. Electrical Engineering and Computer Science

Expected Graduation: Spring 2026

GPA: 3.1 / 4.0

SKILLS

Languages: C/C++, Python, HTML/CSS/JavaScript, VHDL

Libraries & APIs: Pandas, NumPy, scikit-learn, OpenCV, OpenGL

Frameworks, Tools & Software: FPGA, STM32, SPI, I2C, LTSpice, Ansys HFSS, Git, ROS 2

Interests: Embedded Systems, Medical Devices, Real-Time Data Pipelines, RFIC Design, PCB Layout, PLC

RELEVANT COURSEWORK

Electrical Engineering: Embedded Systems, Circuits & Electronics, Digital Logic, EM Fields & Waves, Probabilistic Systems Analysis

Computer Science: Web Programming, Data Structures, Algorithms, Machine Structure and Programming, Probabilistic Robotics, Machine Learning

Mathematics: Multivariable Calculus, Linear Algebra, Real Analysis, Differential Equations, Probability, Mathematics of Data Analysis

EXPERIENCE

MSRM Web Development - Developer

Dec 2024 - Present

- Designed and implemented scripts to parse and standardize manufacturing data into JSON, improving data consistency across systems.
- Built robust data pipelines connecting client data sources on active manufacturing lines to MongoDB and AWS databases, facilitating real-time data analysis and reporting.
- Contributed to the design, development, and deployment of a full-stack custom database solution with a user-friendly interface, integrating front-end features for seamless data monitoring.

Tufts University - Undergraduate Researcher

Jun 2024 - Present

- Collaborating with Prof. Kasso Okoudjou on frame theory and applied harmonic analysis, focusing on the decomposition of harmonic frames drawn from DFT matrices.
- Investigating methods to parallelize FFT operations with redundancy to enhance computational efficiency in signal processing workflows.
- Developing a formal proof framework to classify these harmonic frames for applications in signal analysis.

KEY PROJECTS

Design and Simulation of a Probe-Fed Patch Antenna Using HFSS

Dec 2024

FPGA Arcade Video Game (DVD Battle)

Nov 2024 - Dec 2024

SwarmSense: Gesture Controlled Crazyflie Swarm

Mar 2024 - May 2024

Image-Based Particle Filter for Simulated Drone Localization

Jan 2024 - Feb 2024

Real-Time Fluid Simulation

Jun 2023 - Jul 2023