Samuel M. Adjaklo

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EDUCATION

Michigan State University **East Lansing, Michigan**
B.S. Computer Engineering *Expected Graduation, May 2027*

- **GPA:** 3.90 /4.00, Honors College
- **Related Coursework:** Python, C++, Discrete Structures, Honors Digital Logic, Circuits Design Class

EXPERIENCE

Fraunhofer USA Center Midwest CMW **East Lansing, Michigan**
Research Assistant *Sep 2023 – May 2024*

- Developed an algorithm using Python's SciPy library to detect heavy metal concentrations based on contamination levels from redox curves using Python's Matplotlib for visualization and analysis, helping farmers identify low-contamination lands and increase crop yield by 20%.
- Used C to create an Arduino-based program for optimized forward and reverse pump sweeping over a boron-doped diamond electrode, achieving 30% less error and improved flow control with HC-05 Bluetooth connectivity.

Michigan State University Dept. of Physics and Astronomy **East Lansing, Michigan**
Undergraduate Teaching Assistant *Aug 2024 – Present*

- Facilitated problem-solving sessions for small groups in Physics 183, assisting students in applying VPython to model and solve complex physics problems, ensuring a deeper understanding of practical concepts through coding.

Electricity Company Ghana **Accra, Ghana**
Product Management Intern *Oct 2021 – Dec 2021*

- Shadowed a senior product manager in the testing and deployment of new transformers, circuit breakers, and PTs.
- Conducted field tours to study substation patterns and gather insights on power distribution and load management.
- Collaborated with cross-functional teams to analyze the performance and efficiency of power systems, helping to identify opportunities for system optimization.

PROJECTS

Desert Code Rush **https://github.com/adjaklos/Desert-Code-Rush**

- Developed a game using Unity, C#, and Unity UI where players dodge obstacles and receive real-time coding tips.
- Hosted the game for beginner coders in middle and high schools in Ghana, recording a 40% higher coding score than traditional text-based learning, with 80% of players reporting improved coding comprehension.

4-Bit Digital Signal Processor

- Designed a 4-bit DSP in Verilog to perform basic signal processing operations like filtering and modulation.
- Verified DSP performance through test benches, ensuring accurate signal modulation and filter responses.

Smart Irrigation System

- Developed an embedded irrigation system using Arduino hardware and C, that monitors soil moisture and temperature, delivering controlled water amounts, boosting germination, and improving test plant survival rates.

LANGUAGES AND LIBRARIES

AutoCAD, SpicePython, C, C++, Pandas, Numpy, Matlab, Java, Javascript, Pandas, Numpy, Data Structures and Algorithms, Firmware

TOOLS

Arduino, Android Studio, IntelliJ, PyCharm, MATLAB, Visual Studio, Git

SOFT SKILLS

Problem-Solving, Teamwork, Communication

EXTRACURRICULAR AND ADDITIONAL

COLORSTACK, NSBE, CODEPATH, AFRICAN STUDENTS UNION, AI CLUB, EXOSKELETON CLUB