Mauyon Wusu

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EDUCATION

Alabama A&M University (AAMU), Expected May 2027 — Normal, AL
Bachelor of Science in Electrical Engineering, 4.0/4.0 GPA (Dean's List & Honors Scholar)

Relevant Coursework: Calculus I, II & III, General Physics 1 & 2, Engineering Computing (C++ programming), Linear Circuit Analysis I & II, Analog Circuits I, Applied Differential Equations, Digital Circuit Design/Analysis

TECHNICAL SKILLS AND TOOLS

C++ • Python • C# • Microsoft Office Suite • MATLAB • Tinker CAD • Unity Game Engine • Bootstrap • System Verilog • Arduino • Visual Studios • KiCad • PCB Design • Git • Multisim • Circuit Design • Soldering • Swift • PyTorch • Vivado

WORK EXPERIENCE

Summer 2025 — **John Hopkins Energy Efficient High-Performance Computing Lab** — Baltimore, MD
Student Researcher

- Built an image classification model with linear projections, convolution, SiLU and classification layers, achieving 94% accuracy.
- Translated ML model for hardware by implementing layers in System Verilog and quantizing weights for fixed point computation.
- Researched on CNNs, Transformer computational complexity tradeoffs, and Mamba's selective state space model solution.

Summer 2024 — **Activision + HBCU in LA Games** — Los Angeles, CA
Student Intern

- Utilized Unity Game Engine and C# to develop user-interactive main menus for the games, "Afro Tiles" and "Afro-Samurai."
- Implemented audio elements in game and improved the game's UI/UX design to enhance players' experiences by 25%.

Jan 2024 - April 2024 — **Alabama A&M University** — Normal, AL
INSPIRE Student Researcher

- Implemented Gaussian elimination and Gauss-seidel numerical methods in electric circuit analysis using C++.
- Examined applications of Discrete Fourier Transform (DFT) and Fast Fourier Transform (FFT) in signal processing.

PROJECTS

2025 AMD Open Hardware Competition — Ongoing

- Developing a real-time AI-based fault detection system for industrial equipment using Red Pitaya STEMlab 125-14, designing Verilog modules for signal filtering, feature extraction and integrating FPGA processing with ARM-based anomaly detection.

2025 FICO Data Analytics Educational Challenge — Feb 2025 – April 2025

- Participated in data science challenge to develop credit card fraud detection models using transaction data and ML techniques.
- Conducted data analysis and feature engineering at transaction and account level to improve accuracy and reduce false positives.

AsthmaAssist, Mentors Ignite Discovery Research — Jan 2025 – April 2025

- Built predictive model for smart asthma management by forecasting Air quality Index using pollutant and weather datasets.
- Engineered features such as lag variables and rolling averages and evaluated the regression model using RMSE and R^2 metrics.

Formula SAE and NASA Human Rover Exploration Challenge — Sept 2024 - April 2025

- Utilized Multisim in circuit design for the Brake Plausibility Device (BPD) for FSAE vehicle Electronic Throttle Control System.
- Developed a LiDAR distance measurement system using Arduino, I2C Communication, and integrated mobile data transmission

LEADERSHIP & PROFESSIONAL DEVELOPMENT

2025 IEEE SoutheastCon Competition • Harvard WECode Tech Fellow'25 • ColorStack • RTC • IEEE Historian • 2nd Place, I3 Social Business Model Pitch Competition • Student Fellow & Teaching Assistant, IEEE Open Project Space and PCB Program