

Agraw Mindaye

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SKILLS

Programming Languages: C, C++, Python, JavaScript

Frameworks & Libraries: React, Node.js, Express.js

Embedded Systems: STM32 (ARM Cortex-M33), ESP32, Arduino, I2C/SPI/UART

Tools & Debugging: Git, GDB, Logic Analyzer, ARM Toolchains

Certifications & Training: Embedded Systems (PyjamaCafe), Android Development (CodePath)

EXPERIENCE

Embedded Firmware Engineer

Dec. 2025 – Present

Stukes Defense

Remote

- Lead the bring-up of an STM32U575 (ARM Cortex-M33) embedded platform, establishing a stable firmware baseline including clock configuration, peripheral initialization, and runtime validation
- Design and implement low-level sensor drivers using I2C, including register-level communication, device validation, and structured error handling
- Develop an SPI-based microSD driver from scratch, implementing SD card initialization sequence and block-level read/write operations for persistent data logging
- Implement UART-based logging and debugging infrastructure for real-time system visibility and validation
- Build a structured firmware architecture separating drivers, sensor abstraction layers, and application logic to ensure scalability and maintainability

AI Trainer

Oct. 2025 – March 2026

Handshake AI

Remote

- Developed and evaluated domain-specific prompts to improve LLM reasoning accuracy across scientific and technical domains
- Analyzed model outputs for correctness, clarity, and logical consistency, identifying failure patterns and documenting findings with structured feedback for internal teams
- Conducted independent research to refine prompt design and evaluation methodologies

Software Development Intern

Sep. 2024 – Dec. 2024

NAGY Ventures

Newark, NJ

- Developed a centralized client portal using React, streamlining branding and marketing workflows and reducing manual reporting overhead
- Integrated real-time social media APIs to enable dynamic tracking of engagement metrics and performance trends
- Collaborated with UI/UX and backend teams to design a responsive React interface, improving onboarding and client retention
- Improved platform scalability and performance by optimizing component rendering and responsiveness across devices

PROJECTS

Smart Environment Dashboard | *ESP32, C++*

(GitHub)

- Engineered an ESP32-based embedded system to collect and log temperature and humidity data to an SD card
- Integrated an I2C LCD and physical button interface to enable real-time navigation through stored sensor logs
- Designed non-blocking data logging and UI update logic to maintain display stability during concurrent sensor polling and user input

LED Control Panel | *Arduino, C++*

(GitHub)

- Developed a hardware control system using button inputs and LED outputs, implementing debouncing and state-based logic for reliable operation
- Structured application logic to separate hardware control from state management, improving modularity and maintainability

EDUCATION

New Jersey Institute of Technology

Newark, NJ

Bachelor of Science in Computer Science

Sep. 2022 – Dec. 2024