

Malcolm Clottey

Software Engineer | Full-Stack Development | AWS Certified Developer

Fredericksburg, VA | (540) 287-5946 | malcolmclootey8@gmail.com | [linkedin.com/in/malcolmclootey](https://www.linkedin.com/in/malcolmclootey) | malottev1.github.io/portfolio

Summary

Computer Science graduate (Ashesi University, GPA 3.52) with hands-on experience building full-stack applications in Python and React, and deploying cloud-native systems on AWS. Passionate about automation, clean code, and scalable architecture. Eager to grow as a software engineer in a collaborative, high-impact environment.

Technical Skills

Languages & Frameworks: Python, Java, JavaScript/TypeScript, C++, React, Node.js/Express, Django, Flask, .NET

Cloud & DevOps: AWS (EC2, ECS, S3), Docker, GitHub Actions/CI-CD, PostgreSQL, MySQL, Git, Linux/RHEL

AI/ML & Data: RAG, OCR, LLM Agents (n8n), XGBoost, PyTorch, Federated Learning

Experience

AI Document Intelligence Extern (in partnership with Pfizer)

Jun 2026 – Present

Extern, Inc.

Remote

- Built AI pipelines to process pharmaceutical vendor files using OCR (Tesseract, PaddleOCR) and RAG for data extraction and classification
- Developed a RAG-based document retrieval system with LlamaIndex, optimized with chunk tuning and open-source LLMs (Mistral, Phi-2)
- Conducted end-to-end evaluation of the document intelligence system, benchmarking OCR accuracy, RAG retrieval quality, and routing performance; delivered a technical report on model trade-offs, optimization strategies, and deployment recommendations, and built a UI for demos

AI Extern (in partnership with Wayfair)

Mar 2026 – May 2026

Extern, Inc.

Virginia, United States

- Built AI agents with n8n to automate trend detection, competitor tracking, and marketing content generation across the home goods sector
- Tracked competitor pricing and campaigns via JavaScript web-scraping scripts, feeding structured insights into pricing strategy
- Built a live-updating Google Sheets dashboard (React + Apps Script) surfacing AI-generated trend signals and competitive benchmarks

Software Developer Intern

Jul 2025 – Sep 2025

Tyncad Software Company

- Engineered full-stack improvements to a live Django/JavaScript platform, integrating redesigned UI with dynamic backend endpoints
- Refactored front-end assets and minimized HTTP payloads, reducing load times by approximately 40%

Projects

MadeFor — Full-Stack Jewelry E-Commerce Platform

May 2026 – Present

Project Lead

- Built a full-stack e-commerce platform with a React frontend, a Node/Express REST API, and a PostgreSQL database, deployed at \$0/month recurring cost
- Implemented dual payment gateways (Paystack, Stripe) with webhook-based async confirmation, JWT auth with refresh-token rotation, and server-side cart validation to prevent overselling

Hybrid Algorithmic & AI-Based Timetabling System

Jan 2025 – Apr 2025

Project Lead

- Designed a scheduling engine (greedy + genetic algorithms) assigning 483 sessions across 20 rooms in under 30 seconds
- Deployed 5 Dockerized services via CI/CD to AWS EC2 with 100% uptime, monitored with Prometheus/Grafana

Real-Time Fraud Detection Platform

May 2024 – Jul 2024

Project Lead

- Built a Flask microservice scoring transactions in real time via an XGBoost model (98.65% accuracy, 0.9987 AUC)
- Balanced training data with SMOTE/ADASYN and containerized with NGINX and health checks, sustaining 99.67% uptime

Education

BSc., Computer Science

Jan 2022 – Jun 2025

Ashesi University College — GPA: 3.52/4.00 — Dean's List

Certifications

AWS Certified Developer – Associate | Amazon Web Services | Sep 2025 – Sep 2028