

Olusegun Joshua Adeoluwa

Cybersecurity | Software Engineering

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Computer Science graduate who builds security investigation tools and production software. Seven projects below, each designed, built and tested end to end; over 520 automated tests across them, and one system running live at a school.

PROJECTS

Phishing Investigation Workbench

Next.js, TypeScript, FastAPI, SQLite, CAPEv2 · 70 tests | github.com/JoshCS-te/nemsec-phishing-workbench

Investigates suspicious email end to end: preserves .eml evidence with SHA-256, renders a sanitised preview in a sandboxed iframe, analyses links without visiting them, and statically analyses attachments (macros, PE headers, archives, PDF actions) in a resource-limited worker. Optional CAPEv2 sandbox detonation with reset verification. About 30 documented rules, each with evidence and benign explanations instead of a score.

Incident Investigation & Report Builder

Next.js, TypeScript, FastAPI, SQLite · 56 tests | github.com/JoshCS-te/nemsec-incident-builder

Imports security logs as read-only, hash-verified evidence and builds a UTC-normalised timeline. Four chained detection rules (failed-login burst, success after burst, privilege change, data export) joined on the same actor. Case management with versioned findings that must cite events, and PDF reports that can't be marked reviewed until every placeholder is filled.

School Management Information System (client work, live)

NestJS, Prisma, PostgreSQL · 144 endpoints · 208 tests | Demo: github.com/JoshCS-te/SMIS-DEMO

Full school platform in daily use at BE RADIANT SCHOOLS: admissions, students, parents, staff, attendance, results and report cards, and fees via Paystack and Flutterwave. Nine roles, 41 permissions enforced on the backend, JWT with refresh tokens, logout after failed logins, and an immutable audit log. Client code is private.

EduOS: School Timetable Engine

React, Node/Express, SQLite · v1.9.9.4 | github.com/JoshCS-te/School-Management-System-NEMSEC-EduOS-

Generates complete secondary-school timetables with backtracking search (MRV heuristic, forward checking). A seven-tier relaxation fallback guarantees a full timetable and flags any unavoidable clash for manual review.

NEM: Priority Assistant for Windows

Python, PySide6, SQLite, Vosk · 188 tests | github.com/JoshCS-te/nem

Local-first desktop assistant that ranks tasks with a six-factor model and explains every recommendation. Offline natural-language parser, dependency cycle detection, persistent reminders, versioned migrations with automatic backups, and offline voice.

Dataset Integrity Checker

FastAPI, React, JWT + Argon2 | github.com/JoshCS-te/dataset-integrity-checker

Audits image datasets for label-poisoning risk: class imbalance, duplicate labels and an integrity score, with accuracy-loss projections calibrated from my own clean-vs-poisoned classifier experiments (88.9% to 54.2% at 40% poisoning).

Blockchain Certificate Verification System

Python | github.com/JoshCS-te/blockchain-credential-verify

Hash-linked ledger for issuing and verifying graduate certificates; any edited field fails verification. Full-chain validation and an append-only audit log.

SKILLS

Security: Phishing and email forensics, log analysis and detection rules, evidence handling, malware static analysis, sandboxing (CAPEv2), secure web development, networking

Engineering: Python, FastAPI, TypeScript, Next.js, React, NestJS, Prisma, PostgreSQL, SQLite, PySide6, pytest, Git, Render, Netlify

BACKGROUND

B.Sc. Computer Science

Networking & Cybersecurity training

Founder, NEMSEC (registered technology company, RC 9767547)

Mathematics teacher, JSS1 to SS3, 6 years