Olisemeka Nmarkwe

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EDUCATION

Southeastern Louisiana University — Hammond, LA
Bachelor of Science, Computer Science, Concentration: Data Science | GPA: 3.8 — *May 2026*
- **Achievements**: Thirteen Club (Top GPA), Honors Scholarship, Student Leader of International Student Union, Winner of Nexus LA Buildathon

EXPERIENCE

AI Intern — May 2025 – Aug 2025
Dialysis Care Center — *Remote*
- Engineered production-ready RAG pipelines using PyTorch to streamline patient interaction workflows, ensuring strict adherence to healthcare data governance and compliance standards.
- Architected a semantic vector search engine (FAISS) with optimization techniques to modernize legacy knowledge retrieval, significantly reducing query resolution time for medical staff.
- Collaborated with cross-functional teams to integrate LLM-based autonomous agents, implementing guardrails to eliminate hallucinations in high-stakes clinical environments.

Student Engineer — Aug 2025 – Present
Southeastern Northshore STEM Center — *Hammond, LA*
- Lead technical enablement workshops, translating complex hardware architecture and AI concepts for non-technical audiences to drive customer engagement.
- Engineered computer vision pipelines for NVIDIA Jetson-powered robots, applying quantization to optimize custom machine learning workflows for real-time edge processing.
- Designed and deployed autonomous navigation systems using PyTorch models, benchmarking object detection algorithms to showcase hardware capabilities to stakeholders.

Research Assistant — Aug 2024 – Dec 2024
Southeastern Louisiana University — *Hammond, LA*
- Implemented end-to-end data acquisition protocols and preprocessing pipelines for high-fidelity EEG signals, ensuring reproducibility of scientific results.
- Trained and evaluated classical ML classifiers (SVM, KNN, Decision Trees) to validate novel biometric identifiers, applying advanced data augmentation to handle sparse biological datasets.

PROJECTS

NestScope | nestscope.olisemeka.dev | *FastAPI, YOLO26, ONNX, SAHI, Jetson Nano* — Mar 2026
- Led team NestScope to secure 2nd place at the statewide Nexus Louisiana DevDays Environmental Challenge by architecting a comprehensive avian monitoring platform.
- Trained a custom YOLO26 model (Swift) on 17,000 aerial images, achieving 91.2% accuracy, and deployed INT8-quantized weights to a Jetson Nano for autonomous drone edge inference using SAHI.
- Engineered privacy-preserving browser inference via ONNX Runtime Web and a multi-phase, self-correcting Text-to-SQL LLM agent to analyze 2.6M+ historical bird survey records.

PragBase | pragbase.app | *Flask, HTMX, Tailwind CSS, RAG, Embeddable Widget* — Aug 2025
- Architected a universal RAG assistant using Flask, HTMX, and Tailwind CSS that ingests agnostic data sources (PDFs, URLs, Raw Text), converting them into a vector-searchable knowledge base.
- Developed a lightweight, JavaScript-based widget enabling users to embed the AI agent into any external website with a single script tag, delivering dynamic interactivity with minimal load.
- Optimized backend retrieval utilizing Dockerized microservices, ensuring secure data isolation and sub-second response times for concurrent user sessions.

Paokinator | paokinator.olisemeka.dev | *FastAPI, PostgreSQL* — Oct 2025
- Engineered a probabilistic guessing game (Akinator clone) utilizing a FastAPI backend and Supabase PostgreSQL to efficiently query over **260k+ character datapoints**.
- Deployed the full-stack application on Railway using CI/CD pipelines, optimizing database connection pooling to handle high-concurrency global traffic.
- Implemented a self-correcting fuzzy logic algorithm that dynamically updates decision weights based on real-time user feedback, automating data accuracy improvements.

TECHNICAL SKILLS

Languages: Python, SQL, JavaScript
AI/ML & Vision: PyTorch, TensorFlow, YOLO26, YOLO11, RF-DETR, SAM 3, OpenCV, RAG, LangChain, Quantization, Agentic Coding, OpenClaw
MLOps & Infrastructure: Docker, AWS, GCP, FastAPI, Flask, HTMX, Tailwind CSS, PostgreSQL, Railway, Distributed Training, Linux