SILAS OSUNBA

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PROFESSIONAL EXPERIENCE

Condere Corp Ltd — England, United Kingdom

AI & Product Engineer *Jun. 2026 - Present*

- *Architected and developed an LLM-augmented candidate recommendation and data-reuse platform using FastAPI, Next.js, and Supabase, transforming more than 7,432 historical submissions and 5,223 expert profiles into a searchable talent intelligence system.*
- *Designing agentic AI and human-in-the-loop systems for elimination of 80% of manual recruitment processes.*
- *Responsible for product strategy and end-to-end delivery of launched products. Designed and built four products (Argus, Artemis, Prometheus v0 and Prometheus v1) within a two-month timeframe, achieving a 95% delivery rate and reducing performance latency by 45%.*

Moniepoint Inc. — Lagos, Nigeria

Software Engineering Fellow *Feb. 2026 - May 2026*

- *Designed and developed an analytics endpoints that queried merchant activity data to generate business insights for the Data Analytics and Growth teams.*
- *Deployed a containerized system that delivered business insights 75% faster and at 25% lower cost than previously deployed endpoints.*

Engineering.Fit() Research Laboratory — Lagos, Nigeria

Machine Learning Researcher *September 2024 - December 2025*

- *Developed and evaluated a CNN-based oil-spill detection system optimised for real-time inference on resource-constrained edge devices.*
- *Fine-tuned pretrained computer-vision models on a specialised oil-spill dataset and achieved 97% detection accuracy.*
- *Applied float16 quantization to reduce model size by 70% while ensuring predictive performance is preserved and improved deployment suitability for low-resource environments.*

EDUCATION

Lagos State University — Lagos, Nigeria

Bachelor of Science (B.Sc.), Electronic & Computer Engineering *Sept. 2020 – Dec. 2025*

- **Cumulative GPA:** 4.77/5.0; **Honors:** *First Class Honors, Best of Graduating Class '25*

PUBLICATIONS

- A. O. Bakare, K. T. Seriki, F. O. Emmanuel, **S. T. Osunba**, S. E. Ayoigbala, and K. J. Oshile. *"Using Convolutional Neural Network for the Detection of Offshore and Onshore Oil Spills."* Paper presented at the SPE Nigeria Annual International Conference and Exhibition, Lagos, Nigeria, August 2025. DOI: 10.2118/228732-MS.
- Bakare, A. O., Seriki, K. T., & **Osunba, S. M.** (2025). *"Predicting Proton Exchange Membrane Fuel Cell Performance through Advanced Machine Learning Techniques: A Comparative Analysis of Ensemble Techniques."* Scientia. Technology, Science and Society, 2(8), 73-86. DOI: 10.59324/stss.2025.2(8).07

PROJECTS

QueryMate (Source Code)

Developed an open-source, security-first Python package that enables non-technical users to query large relational databases using natural language, translating questions into SQL and returning human-readable responses. Integrated memory engineering and robust security measures to address vulnerabilities in existing SQL toolkits of popular agentic AI frameworks, including LangChain, LlamaIndex, and CrewAI. Designed for seamless integration into analytics and self-service data applications, while eliminating the need for technical expertise in database interactions.

Automated Detection of Diabetic Retinopathy (Live App)

Developed a CNN-based diabetic retinopathy (DR) detection system that analyzes retinal fundus images and achieved 96% recall. By leveraging machine learning and computer vision, the system addresses the high cost, time demands, diagnostic subjectivity, and shortage of ophthalmologists associated with manual DR diagnosis, facilitating early and accurate detection. The CNN architecture was inspired by ResNet and MobileNet. I deployed as a web-based application, enabling users to upload single or batch retinal fundus images for real-time DR analysis. The platform features secure patient data management, allowing storage, retrieval, tracking of predictions, and downloadable reports in PDF format.

SKILLS

- **Programming:** *Python, SQL, JavaScript, TypeScript, Java*
- **Machine Learning & MLOps:** *Scikit-learn, TensorFlow, Pandas, NumPy, SciPy, feature engineering, model evaluation, hyperparameter tuning, Hypothesis Experiment, A/B Testing*
- **ML Deployment and MLOps:** *FastAPI, Docker, MLflow, Model optimisation*
- **Data Stores:** *PostgreSQL, MySQL, MongoDB, Redis, AWS S3, Supabase, Vector Databases (ChromaDB, Pinecone, Faiss)*
- **Cloud & DevOps:** *AWS, Git, GitHub, CI/CD, GitHub Actions, Docker, Kubernetes*
- **Generative AI Frameworks:** *LangChain, CrewAI, Pydantic AI, LlamaIndex*
- **Soft skills:** *Problem Solving, Attention to detail, Effective communication, Leadership, Creative collaboration, Team work*

AWARDS & HONORS

- **Chancellor's/Dean's Award for the Engineering Valedictorian** – *Lagos State University, August 2026*
- **First E&P Scholar** – *First Exploration and Petroleum Development Company, August 2024.*
- **Undergraduate Scholarship Award for Excellent Performance in Engineering** – *Society of Petroleum Engineers International (SPEI), Lagos Section 61, July 2023.*
- **Vice Chancellor's Letters of Commendation/Award of Scholarship** – *Lagos State University Management and Senate, For an outstanding performance in the 2020/2021 academic session , September 2022.*