

DANIEL OGBUIGWE

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TECHNICAL SKILLS

Languages: Python, C++, JavaScript/TypeScript, SQL, Bash

Backend & Infrastructure: Flask, FastAPI, Node.js, PostgreSQL, AWS (S3, EC2, SageMaker, IAM), Docker, Linux, CI/CD

ML & Computer Vision: PyTorch, TensorFlow, YOLO, OpenCV, Hugging Face Transformers, multi-GPU training

Frontend: React, Next.js, TypeScript, HTML/CSS

Tools: Git, GitHub Actions, Prisma, Label Studio, NVIDIA NeMo

EXPERIENCE

ML Research Engineer — Prairie View A&M University *June 2025 – Present*

- Architected scalable data ingestion system processing 38,000+ video files (8TB+) with automated preprocessing, validation, and quality checks; reduced annotation pipeline time by 60% through parallelized processing
- Built open-source annotation platform supporting multi-format export (COCO, YOLO, Pascal VOC) for bounding boxes and pose estimation keypoints; deployed using Docker with PostgreSQL backend
- Co-authored IEEE Access publication on distributed ML framework for real-time behavioral monitoring across multi-camera systems

Data Engineer (Contract) — Debyl Ltd / Shell Corporation *Sept 2024 – Dec 2024*

- Designed real-time telemetry pipeline ingesting high-frequency IoT sensor data from industrial cryogenic plant using NumPy and Pandas, supporting engineering teams during commissioning
- Deployed AWS infrastructure (S3, IAM, EC2) enabling cross-functional teams to query and visualize pressure, temperature, and flow rate data

Software Engineer Intern — Huawei Technologies *2022 – 2023*

- Automated incident detection and alarm correlation with custom Python scripts, reducing mean time to resolution from 70 minutes to 25–30 minutes for distributed telecommunications infrastructure
- Maintained 99% service availability across network operations through real-time log analysis and anomaly detection tools

PROJECTS

Real-Time Multi-Language Speech Recognition API — github.com/ogbidaniel/Wav2VecNigeria

- Architected serverless streaming ASR system on AWS (SageMaker Serverless, API Gateway WebSocket, Lambda) supporting 5 African languages with <\$1/month operational cost and 18-25s cold start optimization
- Achieved 4x inference speedup through INT8 quantization with CTranslate2; integrated n-gram language models for 20-50% WER improvement

Reinforcement Learning Chess Agent — github.com/ogbidaniel/chess-zero

- Implemented AlphaZero algorithm from scratch coupling Monte Carlo Tree Search with custom ResNet backbone
- Engineered PyTorch-CUDA distributed training pipeline on NVIDIA RTX 5070 enabling parallelized self-play with mixed-precision training

PUBLICATIONS

IEEE Access (2026): ML Framework for Large-Scale Behavioral Monitoring in Dairy Cows

arXiv (2024): Automatic Speech Recognition for the Ika Language

EDUCATION

M.S. Computer Science — Prairie View A&M University (GPA: 3.66) 2025 – *Present*

Focus: Computer Vision, Deep Learning | Coursework: Deep Learning, Data Mining, Computer Architecture

Post-Graduate Diploma, Computer Science — Babcock University 2024

B.Eng. Mechanical Engineering — Baze University (GPA: 3.5) 2021