

Mbebo Nonna

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EDUCATION

University of Toronto

M.Sc. Applied Computing | Vector Scholarship in AI

Expected Dec 2027

AI Concentration

New York University

B.S. Computer Science, Minor in Mathematics | GPA: 3.83/4.0

May 2025

Focus: Machine Learning

SKILLS

Languages: Python, C++, Java, SQL, TypeScript, C#

AI / ML: PyTorch, JAX, Hugging Face, LangChain, Pydantic AI, RAG, Qdrant, FAISS, Rasterio/GDAL

Systems: FastAPI, Docker, Kubernetes (AKS), MLflow, Azure, AWS

EXPERIENCE

AI Engineer

Wio Bank

Feb 2026 – Sept 2026

Abu Dhabi, UAE

- Reduced non-fraud dispute review time **83% (30 → 5 min per case)** by building production **agentic LLM workflows** with **Pydantic AI**.
- Drove weekly dispute volume down **71% (350 → 100)** by building and deploying an AI-assisted in-app dispute flow for **100k+ customers** on autoscaling **Azure AKS**.
- Accelerated policy review time **94%** across **100+ policies** by building a production **PageIndex-style RAG platform** with evidence-backed gap detection and remediation recommendations.

Machine Learning Engineer

Praxaus

May 2025 – Dec 2025

Abu Dhabi, UAE

- Built an automated **SAR surface-mine detection pipeline** on **AWS** across **50+ AOIs (~2,500 km²)**, using **Rasterio/GDAL** and a **PyTorch ResNet-50 U-Net** for AOI-level mine-site scoring.
- Reached **95% precision** and **88% recall** on geographically held-out mine sites using a **Dice-Focal loss** with a boundary-aware penalty to suppress debris-driven false positives.

Machine Learning Research Assistant

Computational Solid Mechanics Lab, NYU Abu Dhabi

Sept 2024 – May 2025

Abu Dhabi, UAE

- Developed **NCDE-DeepONet in JAX** for transient PDE operator learning, cutting mean error **40%** vs. a GRU-DeepONet baseline, with **85%** of elastodynamics test cases under 10^{-2} relative error.
- Achieved **resolution-independent inference** across Poisson, elastodynamics, and thermoelasticity benchmarks (**50% sparse to 200% upsampled** inputs) without retraining, scaling experiments with **multi-node JAX parallelism**.

Software Engineer Intern

Aurora Innovation

May 2024 – Aug 2024

Mountain View, CA

- Cut time-to-identify model failures **30%** by engineering a **human-in-the-loop triage pipeline** that auto-surfaced low-confidence perception predictions to labelers.
- Blocked **10+ degraded models** from reaching the on-road fleet by building **automated regression testing** with golden-set log playback.
- Shipped a React **Safety Audit Dashboard** for systems engineers to track perception model performance across long-tail driving scenarios (e.g., night construction zones).

Research Engineer, Neuro-Interactive Systems

Center for Artificial Intelligence and Robotics, NYU Abu Dhabi

Jan 2023 – May 2024

Abu Dhabi, UAE

- Modeled and built the **VR supernumerary-thumb environment (Unity/C#, Blender, Meta Quest Pro)** used to elicit motor-imagery neural signatures across **20 participants** over 10 sessions and 160 trials each.
- Enabled single-trial **EEG classification** at **78.7%** (82.1% fine-tuned), validating VR as a **BCI training medium**; acknowledged in *Scientific Reports*.

PUBLICATIONS

Time Resolution Independent Operator Learning | *Computer Methods in Applied Mech. & Engineering*

2025

- Abueidda D., Nonna M., et al - built the multi-GPU JAX training and inference pipeline; trained/finetuned models

AWARDS & HONORS

1st Place, GenAI Student Hackathon | Microsoft, Khalifa University

May 2025