

# NASHIRU MUNIRU, CBAP®, CRISC®, PMI-ACP®

AI Solutions Architect · AI Systems Engineer · Generative AI · RAG · Agentic Systems · Cyber-Physical AI for Critical Infrastructure  
Greater Toronto Area, Canada · +1 343-580-0408 · nashirumuniru@gmail.com · nashtgc.space · linkedin.com/in/abduinasirmuniru ·  
github.com/nashtgc

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## SUMMARY

AI Solutions Architect building production Generative AI, RAG, and multi-agent systems for regulated industries, with a published research foundation in AI-enhanced cybersecurity for cyber-physical systems. Translates IIBA business analysis (CBAP), ISACA risk and information systems control (CRISC), and PMI-ACP Agile delivery into audit-ready GenAI shipped on the first compliance cycle. Lead author, [Springer Cluster Computing \(Feb 2026\)](#); architect of the HVAC-CyberEnergy-CoDesign Framework deployed end-to-end on AWS.

## CORE STACK

**Generative AI & RAG:** LangChain, LlamaIndex, OpenAI, Anthropic Claude, AWS Bedrock, vector databases (FAISS, Pinecone, pgvector).  
**Agentic Systems:** LangGraph, AutoGen, CrewAI, human-in-the-loop approval flows. **Cloud & MLOps:** AWS (Bedrock, SageMaker, Lambda, ECS, S3, CloudWatch, IAM), Azure OpenAI, Docker, FastAPI, GitHub Actions, observability and eval pipelines. **Cyber-Physical & Security:** lightweight cryptography (Twofish, Substitution-and-Shuffle networks), IoT/OT intrusion detection, multi-objective reinforcement learning, NIST 800-53, PIPEDA, SOC 2.

## FEATURED RESEARCH-TO-PRODUCTION PROGRAM

### HVAC-CyberEnergy-CoDesign Framework · live at [nashtgc.space](#) · 2024 to Present

- Architected a multi-objective reinforcement learning and lightweight cryptographic co-design platform that jointly optimizes HVAC energy use, occupant thermal comfort, and OT cyber resilience for building automation systems.
- Productized the research stack on AWS as three deployable services: **hvac-cyber-id** (cloud-native intrusion detection on ECS + SageMaker), **hvac-threat-copilot** (RAG threat-explanation co-pilot on Bedrock + Claude), and **hvac-ir-agent** (LangGraph incident-response agent with human-in-the-loop approval).
- Published the cryptographic foundation as lead author in Springer *Cluster Computing* (Muniru & Sun, Feb 2026, DOI [10.1007/s10586-025-05769-0](#)): Twofish + Substitution-and-Shuffle Networks for secure IoT communication.
- Extended the framework through the **TECH 6292** engineering research proposal (capstone scoping) and the **STAT 5784** machine-learning study on RT-IoT2022, benchmarking ensemble classifiers for real-time IoT intrusion detection.

## SELECTED EXPERIENCE

### eLogik.ai · Founder & Principal AI Solutions Architect

Ontario, Canada · Jan 2021 to Present

- Define solution patterns for Retrieval-Augmented Generation, multi-agent orchestration (CrewAI, AutoGen, LangChain), and LLM integration across client AWS and Azure environments, including foundation-model build-vs-buy and vector-database selection.
- Lifted enterprise AI user satisfaction 30% through systematic defect triage, output validation against precision, recall, F1 and ROC-AUC, and CRISC-aligned human-in-the-loop checkpoints aligned to PIPEDA.

### Appnovation · Product Manager (AI-Enhanced Platforms)

Toronto, ON · Aug 2024 to Jul 2025

- Lifted primary conversion 8.5% over six months by designing structured A/B tests across prompt variants and model choices on client digital platforms, turning prompt engineering into a measurable revenue lever.
- Translated stakeholder requirements into AI-ready user stories with explicit model inputs, output expectations, edge cases, and acceptance criteria, eliminating ambiguity that stalls AI handoff between Product, Engineering, and Data.

### Ghana Maritime Authority · IT / VTMIS Officer

Ghana · Nov 2022 to Jul 2025

- Operated and hardened the Vessel Traffic Management Information System (VTMIS), a national-scale OT environment, via access controls, network segmentation, patch cycles, and incident response protecting safety-critical maritime surveillance.

## EDUCATION

**MSc Applied Engineering**, University of Northern Iowa (*in progress, expected 2027*) · **Master of Management, Innovation & Entrepreneurship**, Smith School of Business, Queen's University (2025) · **MSc Computer Application Technology**, Xi'an University of Technology (2021).

## CERTIFICATIONS

**CBAP®** Certified Business Analysis Professional (IIBA) · **CRISC®** Certified in Risk and Information Systems Control (ISACA) · **PMI-ACP®** Agile Certified Practitioner (PMI) · Lean Six Sigma Green Belt · AWS Cloud Practitioner.

## PUBLICATIONS, RESEARCH & AWARDS

**Muniru, A. N. & Sun, J.** (2026). AI-Enhanced Cryptographic Framework using Twofish and Substitution-and-Shuffle Networks for Secure IoT Communication. *Cluster Computing* (Springer). DOI [10.1007/s10586-025-05769-0](#). · **TECH 6292 Research Proposal:** HVAC-CyberEnergy-CoDesign (engineering capstone scoping). · **STAT 5784 Machine Learning Study:** ensemble intrusion-detection benchmarking on the RT-IoT2022 dataset. · **Awards:** UNI Intellectual Property Award 2025 and Ghana Innovative Product of the Year 2025 for myTapDom.