SAMUEL W OUEDRAOGO

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EDUCATION

Master of Science | *Major: Computational Analytics*	August 2025 – Present
Georgia Institute of Technology	Atlanta, GA
Bachelor of Science | *Major: Computer Engineering*	September 2021 – December 2023
Drexel University	Philadelphia, PA
Associate of Science | *Major: Mathematics*	August 2019 – June 2021
Community College of Philadelphia	Philadelphia, PA

TECHNICAL SKILLS

Programming Languages: Python, C++, Rust, R, TypeScript, SQL, Unix Shell Scripting

Cloud & DevOps: AWS (Bedrock, Lambda, EC2, S3, CloudWatch), CI/CD Pipelines, Git, Linux

Software Development: System Design, Microservices Architecture, Full-Stack Development

Data & Analytics: Time Series Analysis, Statistical Modeling, Data Mining, Predictive Analytics

ML/AI Frameworks: Scikit-learn, NumPy, SciPy, Matplotlib, Pandas, AWS Bedrock, RAG

Tools: Tableau, Excel, MATLAB, Git, Jupyter, Docker

Security: Secret Clearance (Active)

Certifications: AWS Certified Cloud Practitioner

Hardware Engineering: Embedded systems design with C/C++, edge computing with Raspberry Pi

PROFESSIONAL EXPERIENCE

Software Development Engineer \| **Amazon Web Services**   July 2025 – Present
Seattle, WA
- Architected and deployed production-ready LLM-powered applications using AWS Bedrock with Retrieval-Augmented Generation, improving knowledge retrieval accuracy by enabling context-aware responses
- Designed and built cloud-native internal tools using AWS services (Lambda, S3, DynamoDB) to automate workflows and reduce manual processing time
- Implemented comprehensive observability solutions using CloudWatch, analyzing logs, metrics, and distributed traces to identify and resolve performance bottlenecks
- Developed RESTful APIs and microservices to integrate AI/ML capabilities into existing enterprise systems

Software Engineer \| **Lockheed Martin**   April 2023 – July 2025
Moorestown, NJ
- Enhanced radar tracking algorithm performance through mathematical optimization and signal processing techniques, increasing model accuracy for mission-critical defense systems
- Engineered high-performance C++ simulation models for real-time radar tracking and signal processing applications
- Designed and maintained RESTful APIs enabling cross-team data integration and expanding system interoperability
- Collaborated with cross-functional teams to deliver software solutions for defense systems under strict compliance requirements

Research Assistant \| **Drexel University**   September 2021 – August 2022
Philadelphia, PA
- Conducted quantitative analysis on financial datasets using Python and R, building predictive models to identify market trends and risk factors
- Developed asynchronous spiking neural networks for neuromorphic computing research, exploring energy-efficient ML architectures

- Built autonomous indoor robot using C++ for environmental sensor data acquisition and analysis
- Applied statistical methods and machine learning techniques to experimental data, publishing findings in research reports

Mathematics Tutor | **Community College of Philadelphia** August 2019 – August 2021

Philadelphia, PA

- Provided tutoring in Calculus I, Calculus II, and Statistics for Engineers to 50+ students
- Collaborated with faculty to develop supplementary materials for complex statistical analysis topics

CBRN Specialist | **US Army** November 2018 – November 2024

Aberdeen, MD

- Led teams in high-rigor operational environments requiring probabilistic decision-making under uncertainty
- Maintained 100% operational readiness of detection and decontamination equipment

PROJECTS AND RESEARCH

Predictive Analytics: Smoking, Gender & Cancer Susceptibility | *Python, R* Fall 2025

Georgia Institute of Technology

- Built statistical models to analyze correlations between demographic factors and cancer risk
- Applied machine learning techniques including logistic regression and random forests

Financial Market Pattern Recognition | *SQL, Python, C++* Fall 2022

Drexel University

- Developed algorithmic trading models to identify market patterns and predict price movements
- Implemented time series forecasting techniques and backtested strategies on historical financial data

Phased Array Radar Control System | *MATLAB, Python* Fall 2022

Drexel University

- Designed control algorithms for planar phased array radar systems
- Optimized signal processing pipelines for real-time tracking applications

Autonomous Air Quality Monitoring Robot | *C++, C* Fall 2021

Drexel University

- Developed embedded C/C++ software for Raspberry Pi-based autonomous indoor navigation
- Integrated environmental sensors and implemented data logging for air quality analysis

ADDITIONAL INFORMATION

Languages: French (Fluent), Mandarin (Elementary)