Eric Itemuagbor

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Education

Prairie View A&M University **August 2023 – Present**

Master of Science in Computer Information Systems

Relevant Coursework: Data Structure & Algorithm, Software Engineering, Deep Learning, High Performance Computing.

Technical Skills

- **Programming Languages:** Python, JavaScript/TypeScript, Java, C++, SQL
- **Framework & Libraries:** ReactJS, Redux, Tailwind CSS, Django, Spring Boot, PyTest, Jest, JUnit, PyTorch, TensorFlow
- **Cloud & DevOps:** AWS (Lambda, EC2, S3, DynamoDB), Terraform, Docker, Kubernetes, Jenkins, CI/CD
- **Database:** MySQL, PostgreSQL, MongoDB, Redis
- **Tools & Systems:** Git, Unix/Linux, SLURM, Agile Methodologies, System Design, Object-Oriented Programming (OOP)

Work Experience

Amazon **May 2024 – August 2024**

Software Development Engineer Intern – CloudTune

- Spearheaded the development of a ReactJS-based migration platform, empowering EC2 customers to seamlessly orchestrate cross-region migrations and cutting their planning time by 35%.
- Implemented a serverless Java microservices on AWS Lambda and RESTful APIs with AWS API Gateway that integrated with DynamoDB, enabling CRUD operations for migration plans and reducing migration cost by 12%.
- Ensured code quality and reliability by developing extensive unit and integration test suites (Junit, Jest, Cypress), resulting in over 90% code coverage and 25% decrease in post-deployment incidents.
- Secured the platform with authentication and authorization using AWS Cognito and IAM policies, achieving 99.9 compliance with Amazon's security standards through automated checks and static analysis.
- Worked in cross-functional Agile team, partnered with product managers and SRE teams to prioritize migration features accelerating roadmap delivery by 40% and slashing backlog by 30%.

Prairie View A&M University **August 2023 – Present**

Graduate Research Assistant – Deep Learning Center

- Engineered a PyTorch-based Graph Convolutional Network to predict minimum cost flows in disaster scenarios, achieving 87% edge-level accuracy, boosting route efficiency by 16% over static methods.
- Streamlined data preparation for model training by creating a Python pipeline (OSMnx + NetworkX) to automate geospatial graph ingestion, cleaning, and labeling, reducing manual effort by 70%.
- Optimized model training by leveraging distributed computing with SLURM and Horovod on GPU clusters, cutting training time by 60%, while maintaining over 90% parallel efficiency.
- Delivered a resilient GCN model that preserves 94% of optimal throughput under simulated disasters, empowering planners with rapid, cost optimized evacuation and supply-distribution plans.

Rexox **November 2022 – July 2023**

Software Engineer

- Enhanced a real-time vehicle tracking platform using ReactJS, Redux, Django, processing 1M+ GPS data points daily, improving customer retention by 15%
- Containerized core microservices using Docker and orchestrated deployment on Kubernetes, implementing autoscaling to power real-time alerts and process 10K+ concurrent tracking requests.
- Boosted database performance by optimizing PostGIS in PostgreSQL, leading to 30% faster query execution and noticeable reductions in server load.
- Configured firmware for tracking devices, increasing integration efficiency and device reliability.

Auretech **March 2020 – July 2023**

Founder & Lead Developer

- Founded and managed a web development consultancy, delivering custom full-stack solutions for over 12 small business clients, leading to an average digital revenue increase of 32% for clients.

- Designed, developed and deployed 9 full-stack web applications and 3 mobile applications (React Native), including complex e-commerce platforms with secure payment integrations (e.g. Stripe, PayPal) processing over $195k in annual transactions.
- Led the complete project lifecycle for all client engagements, from initial requirements gathering, UI/UX design (Figma), and system architecture to agile development, rigorous testing, deployment, and ongoing maintenance.

Projects

UIGenie: AI-Powered UI Component Generator (Personal Project)

- Architected and developed UIGenie, an AI-powered UI component generator (ReactJS, Python, FastAPI, MySQL, WebSockets) employing a RAG architecture for rapid, real-time text-to-UI conversion, reducing frontend development time by an estimated 60-80%.
- Engineered a low-latency (sub-200ms) WebSocket-based live preview system and implemented ML model fine-tuning capabilities to continuously improve UI generation accuracy based on user feedback and interaction patterns.

ResearchPod: Academic Research Publication Platform (Course Project)

- Led the design and full-stack development of an academic research platform (React, Redux, NodeJS, ExpressJS, MongoDB) featuring secure JWT authentication, role-based access control (RBAC), and end-to-end peer review workflows.
- Implemented 15+ RESTful API endpoints with comprehensive error handling and achieved over 80% test coverage (Jest); integrated a Stripe-based donation system and an engagement analytics dashboard.

AlgoBank: Console-Based Banking System (Course Project)

- Developed a console-based banking application in C++ simulating core banking operations, demonstrating proficiency in object-oriented design and fundamental data structures.
- Implemented efficient account lookup using binary search trees, transaction processing using queues, rapid data retrieval via hash tables, and transactions history management using various sorting algorithms.

PantherPlanner: Database-Driven Event Management System (Course Project)

- Built an event management web application using MySQL, PHP, HTML, and CSS featuring event creation, user registration, scheduling, and participant tracking functionality.
- Implemented the database and core business logic using procedural SQL and database triggers for automated event notifications, capacity management, registration validation, and real-time availability updates.

F.A.S.: Flight Accelerometer Switch Prototype (Hackathon)

- Collaborated in a team to build a flight accelerometer switch prototype using Raspberry Pi, accelerometer sensors, and display interface for real-time spatial detection and aircraft orientation monitoring.
- Developed Python code for sensor data acquisition, processing, and visualization on integrated display, delivering a functional IoT aviation device that secured first place in the 48-hour competition.

Certifications

- Andela C++ and Python Programming
- AWS Certified Cloud Practitioner
- AWS Certified Developer – Associate
- Nvidia Deep Learning Certificate

Activities, Leadership & Interest

- **Winner, Panther Invent Hackathon:** Led team to 1st place for developing "F.A.S.," an IOT-based Flight Accelerometer Switch prototype using Raspberry Pi and Python
- **Mentor at PVAMU Data Science Club:** Guide undergraduate students in machine learning concepts, data engineering projects, and career development strategies.
- **Active Member, National Society of Black Engineers (NSBE):** Contribute to STEM outreach initiatives and mentor aspiring engineers.
- **Science Fair Judge (System Software), Texas Science & Engineering Fair:** Evaluated 20+ student projects on software architecture, performance and security; provided constructive feedback and identified finalists.