Michael-Andre Odusami

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EDUCATION

Virginia Polytechnic Institute and State University – BS in Computer Science May 2026
Coursework: *Machine Learning, iOS Mobile Development, Data Analytics, Database Management Systems*
Certifications:

- Meta iOS Developer Professional - Swift, SwiftUI, CoreData, Figma
- CodePath Intermediate Web Development - React, Javascript, Supabase

ACHIEVEMENTS

Won 5 / 5 Coding Competitions in 2 Years (100% Win Rate): React, TypeScript, Python, AWS 2024 – 2026

- **AWS x Virginia Tech Hackathon (2026)** - 1st Place, 90+ participants. Built an AI-Powered quantum computing education platform using 7 AWS services (Bedrock, Braket, DynamoDB, S3, OpenSearch, Titan Embeddings) with a 6-step multi-agent orchestration pipeline, RAG knowledge base, real quantum circuit simulation, and a custom MCP server exposing 12 tools to any compatible IDE
- **Marriott CodeFest (2024)** - 1st Place, 200+ participants. Built a react-native app delivered to Marriott executives, featuring a serverless backend on AWS Lambda (Docker), RAG-powered concierge assistant using Amazon Bedrock and Pinecone, DynamoDB across 6 tables, Cognito auth, and a React Native frontend with WCAG 2.1 AA accessibility compliance
- **HackViolet (2025)** - Capital One Sponsor Award, 180+ participants. Engineered a women empowerment platform with AI-driven menstrual cycle scheduling, ML-powered sentiment analysis for journaling, and a community skill exchange system using React, FastAPI, LangChain, AWS Lambda, and MongoDB
- **VTHacks 12 (2024)** - CoStar Sponsor Award, Best Real Estate Hack, 600+ participants. Built an accessibility building review platform with AI-powered day planning using OpenAI function calling, Next.js, and AWS
- **HooHacks (2024)** - Best Accessibility, 500+ participants. Built a short-form news app for iOS and Android using React Native, MongoDB, and NewsAPI with swipe navigation and text-to-speech functionality

PROFESSIONAL EXPERIENCE

Virginia Polytechnic Institute and State University: Swift, Java, Python Blacksburg, VA
Undergraduate Teaching Assistant August 2024 – Present

- Achieved a perfect 5/5 student evaluation rating (vs. 4.2/5 average) across 100+ students by conducting code reviews, debugging sessions, and architectural planning for 3 core programming courses (Swift Mobile Development, Software Design, Python Programming)

Blackstone Portfolio Company (TDI): Python, Java, Microsoft Power Apps New York, NY
IT Engineering Intern June 2024 – August 2024

- Projected $80,000 in annual cost savings and eliminated 7 hours of manual weekly data entry by engineering the company's first internal automation pipeline using Java, Python, and Microsoft Power Automate
- Developed custom Python scripts (Pandas) to programmatically clean and reformat unstructured legacy data; successfully resolved cell-nesting issues and data-entry errors across 440+ records
- Ensured reliable delivery of 178+ weekly stakeholder notifications by deploying the system on an Azure VM utilizing Spring Boot and Windows Task Scheduler

IPNX Lagos State, Nigeria
Software Engineer Intern: Figma, Typescript, Node, MySQL July 2023 – August 2023

- Architected and shipped a custom full-stack Admin Dashboard from scratch as a solo contributor, replacing a legacy manual email workflow and reducing IT resolution time for 1,000+ monthly support tickets
- Increased user satisfaction by 23% and reduced form completion time by 35% by conducting UX research and translating business requirements into high-fidelity Figma prototypes and a React/TypeScript frontend
- Improved overall data processing efficiency by 15% by engineering robust server-side logic and relational database schemas utilizing Node.js, PHP, and MySQL

SKILLS

Languages: C++. Python, TypeScript, Java, Swift, SQL
Frameworks: React, React Native, FastAPI, Spring Boot, Node.js, SwiftUI, Expo
Cloud & DB & Tools: AWS (Bedrock, Lambda, DynamoDB, S3, Braket, Cognito, CDK), MySQL, Supabase, Docker, Firebase, Git, Postman, Figma
Tools/AI: OpenAI API, Gemini API, Cursor, Amazon Kiro, Trello
Paradigms: Object Oriented Programming, Test Driven Development, SDLC, MVP, MVT, Agile, Waterfall Approach

PROJECTS

Hackathon Award-Winning Hospitality App: Python, TypeScript, AWS github.com/app-reactnative-charriot

- Secured 1st Place out of 200+ participants at Marriott CodeFest 2024, delivering a production-ready hospitality platform to Marriott executives for internal integration
- Included a serverless backend on AWS Lambda (Docker) with FastAPI, DynamoDB across 6 tables, S3, and Cognito auth, deploying via AWS CDK with a RAG-powered concierge assistant built on Amazon Bedrock (Claude 3) and Pinecone vector store
- Built a WCAG 2.1 AA-compliant React Native frontend with Context API state management, OpenDyslexic accessibility toggles, and FlatList optimizations reducing app load time from 4.2s to 850ms

AI-Powered Quantum Computing Education Platform: Python, TypeScript, AWS

- Built a personalized quantum computing learning platform using 7 AWS services (Bedrock, Braket, DynamoDB, S3, OpenSearch Serverless, Titan Embeddings, Cognito), winning 1st Place at AWS x Virginia Tech Hackathon 2026 among 90+ participants
- Engineered a 6-step multi-agent orchestration pipeline using Amazon Bedrock (Claude 3) with RAG retrieval across 24 indexed documents, real quantum circuit simulation via Amazon Braket LocalSimulator, and AI-generated educational video content via fal.ai
- Built a custom MCP server exposing 12 tools to any compatible IDE (Kiro, Claude Desktop, Cursor), enabling the same backend to power both a web UI and direct IDE integration simultaneously

AI Typescript Recipe Creator: Python, Typescript, SQL github.com/app-recipe-ai

- Architected a full-stack recipe management platform using Next.js and FastAPI, deploying 40+ RESTful endpoints and reducing user recipe creation time from 15 minutes to 8 seconds
- Engineered an AI generation pipeline via the Gemini 2.5 Flash API, using a singleton service for rate-limit handling and parsing unstructured LLM JSON into validated schemas to power a 4-state agentic workflow
- Designed a secure, highly optimized backend by implementing role-based access control (RBAC) and adopting the repository pattern, migrating away from ORMs to complex raw SQL queries to achieve separation of business logic from database operations

iOS Relocation Assistant: Swift https://youtu.be/tguY241cjDc

- Implemented asynchronous data fetching to resolve nearby points of interest and flight itineraries, integrating Google Maps and SerpAPI endpoints with custom URLSession handling
- Built an efficient data seeding pipeline processing 16 JSON files into SwiftData, enabling rapid prototyping
- Built high-performance barcode scanner leveraging AVFoundation for real-time PDF417/QR code scanning
- Integrated platform-native features including TipKit onboarding, dark mode support via '@AppStorage', and SwiftUI Charts visualizations

MLS Analytics Engine (In Active Development): Python, Pandas, SQL mikodusami/analytics-engine-mls

- Engineered an ETL data pipeline and custom CLI tool using Python and Pandas to automatically ingest, transform, and analyze 15+ years of Major League Soccer salary and roster records
- Automated the extraction of unstructured datasets by deploying Playwright/BeautifulSoup to scrape JS-rendered web applications and utilizing PyPDF to parse legacy PDF documents into normalized data schemas
- Actively refactoring data transformation logic and optimizing ingestion workflows, routing cleaned datasets into PyArrow-backed Parquet files for columnar analytics and SQLite databases for relational querying

Audience Appeal Analytics Engine (In Active Development): Python, Pandas

- Created a multi-source data pipeline ingesting movie and book metadata from the TMDB API, Kaggle datasets (IMDb, Rotten Tomatoes), and targeted web scraping via BeautifulSoup to consolidate 1M+ user reviews into a unified analytics schema
- Applying NLP techniques including TF-IDF vectorization and VADER sentiment analysis to extract lexical signals from review text, identifying vocabulary patterns that distinguish 5-star from 1-star rated media

- Conducting exploratory data analysis across genre, narrative trope, and rating dimensions to surface statistically significant correlations between content characteristics and aggregate audience scores