Wilson Dagah

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PERSONAL SUMMARY

I'm a forward-thinking Software Engineer specializing in designing, building and deploying resilient, scalable, data driven applications using Java, Python across cloud platforms. Experienced in architecting microservices, proven ability to accelerate development cycles through CI/CD automation and always ensuring to maintain rigorous and high-quality solution through test-driven development (TDD) ensuring robust system integrity and reliability.

TECHNICAL SKILLS

Programming Languages: Java, Python, TypeScript/JavaScript,

Frameworks: Spring Boot, FastAPI, React Js, Express (Node.js), TensorFlow, Keras, Pytorch, Scikit-learn

Development Practices: Agile (Scrum, Kanban), Test Driven Development, TDD (Junit, Mockito, Jest, Mocha), CI/CD (Git, GitHub Actions), OOP, Design Patterns (MVC, Factory, Observer)

API & Integration: RESTful API, API Gateway design pattern, microservices architecture

Databases: SQL Databases (PostgreSQL, MySQL), Redis, Mongo DB

Operating Systems: Linux, Windows

Cloud, Infrastructure, Containerization & Orchestration: Amazon Web,

Services (EC2, S3, Lambda, API Gateway, EKS, ECS, RDS, Route53, CloudWatch, Cloud Formation), Google Cloud, Docker, Kubernetes, Terraform

Monitoring and Observability: Prometheus, Grafana

PROFESSIONAL EXPERIENCE

Software Engineer – TD Markets | Feb 2025 – Present (Remote)

Contributing to the architecture and development of a scalable, web-based investment platform focused on security, compliance, and real-time financial data processing.

- Architecting and developing an investment platform, utilizing React (Typescript) and resilient Spring Boot/FastAPI/Spring microservices that exposes complex RESTful API on the backend, ensuring high performance and real-time portfolio tracking for complex trade execution workflow.
- Designed and implemented optimized database schemas, including indexing strategies, to effectively handle high frequency trade data and achieve sub-100ms query response times for real-time portfolio calculations.
- Monitoring applications performance through logging and metrics collection aiding identifying and resolving bottleneck to ensure system reliability.
- Actively applied Agile (Scrum) practices across the development cycle, including sprint planning, standups, and retrospectives, to deliver incremental features aligned with the product roadmap.

- Automated deployment and environment setup using Docker and CI/CD pipelines (GitHub Actions), which successfully reduced manual configuration time by 40% and boosted team efficiency.
- Collaborated with product and compliance teams to translate complex business needs into technical solutions, balancing innovation with regulatory risk management.

Software Engineer – Intelli Digest | Edinburgh, Scotland, UK | June 2024 – December 2024

Delivered robust full-stack solutions for sustainability-focused data platforms using modern web technologies while improving operational efficiency and team capabilities.

- Collaborated as a core team member, implementing and optimizing features using React/TypeScript and Nodejs, supported by Firebase, MySQL, and MongoDB for high-performance data operations.
- Managed the technical delivery of requirements, translating high-level stakeholder needs into production-ready features; successfully delivered 12+ features across 6 sprint cycles with comprehensive unit and integration test.
- Mentored and led 3 summer interns through onboarding, task assignment and comprehensive code reviews
- Actively contributed to Agile process improvement, proposing and implementing changes like automated testing gates that successfully reduced bug leakage by 15%.
- Automated repetitive development tasks using Python and Node.js scripts, reducing manual testing effort by 30% and improving team velocity during sprint cycles
- Actively participated in Agile ceremonies (Spring planning, retrospectives etc) and technical design discussion, contributing to architecting decisions for scalability and maintainability.

AI/ML Engineer – National Centre for Artificial Intelligence and Robotics (NCAIR) | Nigeria | December 2022 – May 2024

Contributed to machine learning research and data analytics initiative focused on natural language processing and sentiment analysis for customer feedback

- Developed sentiment analysis models using Python (scikit-learn, NLTK, pandas) with supervised learning algorithms (Naïve, Bayes, SVM, Random Forest), achieving 82% classification accuracy on 10,000+ customer feedback datasets through rigorous evaluation and hyperparameter tuning.

- Built automated data processing pipelines to clean, preprocess, and transform large text datasets, implementing tokenization, feature extraction (TF-IDF), and model evaluation workflows that reduced manual effort by 40% and enabled faster experimentation cycles.

EDUCATION

Heriot Watt University – MSc Software Engineering | Edinburgh, Scotland | January 2024 – June 2025
Dissertation: Enhancing Financial Sentiment Analysis for Stock Market Prediction
Relevant Courses:

- Advanced Software Engineering: Java Enterprise Development, Concurrency, Multi-threading
- Advanced Network Security: OSI layer security (Threats and prevention mechanism)
- Big Data Management: Distributed databases (relational, NoSQL, graph), CAP theorem
- Industrial Programming

Afe Bablola University – BSc Computer Science | Nigeria | August 2018 – June 2022

Dissertation: Facial Emotion Recognition using Machine Learning with real-time GUI for emotion classification

Relevant Courses: Artificial Intelligence, Algorithm and Complexity Analysis, System analysis and design

PERSONAL PROJECT

EFinSight AI

Java, Spring Boot, TrueLayer, Google Gemini 1.5 Pro, Vertex AI (Embeddings, Vector Search), Cloud Run, Cloud SQL, Docker

An Intelligent multi-agent financial planning platform that connects to real bank accounts, analyses spending behaviour, and generates personalised budgets and investment insights using Gemini and a RAG-powered knowledge engine.

• Engineered a multi-agent LLM architecture in Java using Gemini function-calling, enabling specialized agents (Spending Analyst, Budget Planner, Investment Advisor) to collaborate and produce holistic financial recommendations.

• Integrated TrueLayer Open Banking API for real-time transaction ingestion, secure OAuth2 authentication, and automated financial categorization with high-accuracy pattern detection across user spending histories.

• Implemented a RAG workflow using Vertex AI Embeddings and Vertex Vector Search to ground agent responses in factual financial data, regulatory guidance, and user-specific transaction history, significantly reducing model hallucination.

• Developed a modular Spring Boot backend with dedicated services for data ingestion, embedding generation, vector storage, and LLM orchestration, exposed through secure REST APIs.

• Deployed production-ready infrastructure on Google Cloud, leveraging Cloud Run for autoscaling compute, Cloud SQL (PostgreSQL) for transactional storage, and Cloud Logging/Monitoring for observability.

• Added optional multimodal support with Gemini, enabling voice-based queries and structured JSON outputs for consistent interpretation.

VOLUNTEERING

First Step Robotics – Volunteer Mentor | West Lothian, Scotland | February 2024 – Present
- Supporting children aged 8 – 17 in developing skills in robotics, coding, and teamwork through hands-on workshops.
- Facilitate weekly sessions where pupils design, build and program robots unto their micro-controllers, applying computing concepts in practical ways.

- Mentor small groups preparing for regional and national robotics competitions, guiding them in problem solving and debugging.

PROFESSIONAL MEMBERSHIP

British Computer Society (BCS), Student Member

Computer Professionals Registration Councils of Nigeria (CPN), Graduate Member

CERTIFICATIONS

AWS Certified Cloud Practitioner

Google Cloud Machine Learning Engineer Certification (On-going)