

Miracle Toluwase Ogunlade

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[LinkedIn](#) • [GitHub](#) • [Portfolio](#) • Lagos, Nigeria

Senior Software Engineer

Accomplished and result-driven professional with a proven track record of designing and architecting robust, scalable, and high-performance systems across FinTech, real estate, and SaaS domains.

Expert in architecting scalable systems, including event-driven architectures, real-time messaging platforms, AI-powered matching engines, and milestone-based escrow solutions—while remaining adaptable across a wide range of technologies and domains. Proficient in building semantic search systems using vector embeddings and vector databases, enabling intelligent retrieval and AI-powered matching at scale. Proven leader in distributed team environments, driving end-to-end product delivery, performance optimisation, and seamless cross-functional collaboration. Skilled at translating complex business requirements into innovative technical solutions that enhance system efficiency, security, and user experience. Recognised for technical mentorship, agile execution, and delivering solutions aligned with strategic goals. Committed to delivering outstanding results in fast-paced environments.

Areas of Expertise

Software Architecture & System Design | Resilient System Design & Fault Tolerance | Event-Driven & Serverless Architecture | Microservices & Service-Oriented Architecture | System Performance Optimisation | Technical Project Management | Full-Stack Software Development | Blockchain & Fintech Solutions | Smart Contract Architecture | Artificial Intelligence & Machine Learning Integration | AI Agent Design & Intelligent Automation | Vector Search & Embedding-Based Retrieval Systems | Real-Time Data Processing Systems | Cloud & DevOps Engineering | Platform Engineering & Internal Tooling | CI/CD Pipeline Implementation | Secure Payment Systems & Wallet Design | SDK, API Design & Development | Database Architecture & Optimisation | Version Control & Git Workflows | Cross-Functional Team Leadership | Mentoring & Talent Development

Technical Proficiencies

Cloud & DevOps: AWS, Azure, CI/CD, Docker, Kubernetes

Architecture & Design: Software Architecture, System Design

Programming Languages: TypeScript, JavaScript, Elixir, Go (Golang), Python, C, Rust, SQL, NoSQL

Databases & Storage: PostgreSQL, MySQL, Redis, MongoDB, Firebase, Amazon S3, DynamoDB, Graph databases

Protocols & Communications: Rest, WebSockets, MQTT, Messaging & Communication Protocols (e.g., REST, WebSockets, MQTT)

Infrastructure, Monitoring & Observability: Pulumi, Terraform, Prometheus, Sentry, Grafana, ELK Stack (Elasticsearch, Logstash, Kibana)

AI/ML & NLP: Vector Databases, FAISS, Vector Embeddings, OpenAI API, Deepseek, LangChain, Hugging Face, TensorFlow, PyTorch

Professional Experience

Ayika Solutions Ltd, Lagos, Nigeria

2024 – Present

Founding Engineer

Establish a unified notification framework integrating SMS, email, WhatsApp, push notifications, and MQTT messaging via centralised interface to enable seamless, scalable communication. Construct dynamic event bus and process engine to facilitate real-time event handling using fan-out approach, with configurable handlers assigned to defined entity types to support adaptive/automated workflows. Implement provider performance analytics solution to generate data-driven insights into service delivery, quality, and user experience.

- Secured coherence across entire solution ecosystem, by defining architectural foundation of Ayika platform, encompassing four core subsystems.

- Facilitated structured, transparent, and equitable pricing discussions between clients and providers, by formulating a real-time price negotiation mechanism.
- Enabled intelligent system capabilities and advanced interaction models, by configuring AI application subsystem for integration with large language models (LLMs).
- Ensured trustworthy fund handling between parties, by constructing a secure wallet and payments infrastructure featuring escrow management and seamless transaction capabilities.
- Enabled clear accountability and conditional payment release, by engineering a milestone resolution module to deliver structured, enforceable progress tracking for service engagements.
- Ensured alignment of users with optimal service providers based on expertise, availability, and location, by directing creation of AI-driven provider matching system using advanced machine learning algorithms and multi-agent coordination.
- Achieved seamless coordination of multi-step user workflows, including parallel execution, dependency-based sequencing, and deadline-driven task progression across distributed services, by developing comprehensive request orchestration platform.

Murcul inc (GitStart), California, CA

2022 – 2024

Platform Engineer, Remote

Conceived and implemented a service to abstract orchestration of Git-related operations using Gitslice, utilising Elixir to ensure high performance and scalability. Designed and refined a webhook framework for processing data from external platforms, expanding functionality to accommodate multiple consumers and advanced topic filtering by shifting configuration parsing to compile-time. Directed end-to-end creation of a subsystem optimised for efficient ingestion and processing of event data streams.

- Achieved seamless bi-directional data synchronisation between internal systems and external ticketing platforms (JIRA, Linear, GitHub Issues) by devising a connector infrastructure, supporting AI-driven ticket enhancement, and developed with Node.js and TypeScript.
- Enhanced integration across internal systems by re-engineering and standardising internal interfaces, enabling consistent interactions with AI agents.

Paycrow, Lagos, Nigeria

2020 – 2022

Founding Engineer

Engineered a blockchain-based financial data integrity framework, enhancing transaction security and ensuring data immutability. Constructed a comprehensive payment request platform and enabled efficient creation, monitoring, and management of payment requests, including milestone attachments and conditional fund release. Orchestrated end-to-end escrow transaction workflow, streamlining deposits, enabling real-time transaction oversight, and automating payouts to bolster transactional transparency.

- Reduced resolution time by 60% from initiation to closure by formulating and deploying a dispute reconciliation process.
- Achieved fulfilment of contractual obligations by devising a milestone-linked escrow mechanism, releasing funds exclusively upon meeting predefined terms.

Murcul inc (GitStart), California, CA

2019 – 2022

Community Team Lead, Remote, 2020 – 2022

Orchestrated development of a high-performance C++ computation library, replicating complex proprietary insurance algorithms to parse and calculate intricate financial data with precision. Directed cross-functional engineering efforts to integrate library into internal dashboard, significantly improving computational capabilities available to insurance agents. Created knowledge-sharing systems, onboarding flows, and documentation to empower contributors and enhance operational efficiency.

- Delivered projects on time, ensuring alignment with strategic product objectives and adherence to rigorous quality standards by championing technical direction across all initiatives.
- Enhanced execution efficiency by 35% for insurance firm's JavaScript and .NET-based computation engine, achieved through in-depth specification analysis and strategic improvements to algorithms and data structures.

Community Technical Project Manager, Remote, 2020 – 2020

Engineered foundational architecture of a real estate platform using .NET, establishing scalable and robust core functionalities. Managed communication between internal teams and community stakeholders to ensure alignment and progress on technical initiatives. Facilitated planning, execution, and monitoring of community-driven projects. Collaborated with cross-functional teams, including engineering, design, and quality assurance, to ensure seamless project execution.

- Achieved streamlined deployment cycles and enhanced release efficiency by orchestrating implementation of a CI/CD pipeline within Azure.
- Ensured alignment with stakeholder expectations and project milestones by coordinating development efforts with strategic oversight, guiding technical execution.
- Delivered key modules for a manufacturing application by devising and implementing a workflow management dashboard and a real-time material consumption monitoring system.

Community Software Engineer, Remote, 2019 – 2020

Designed, developed, and deployed scalable software solutions to enhance community engagement platform, meeting user requirements and technical specifications. Collaborated with cross-functional teams, including product managers and UI/UX designers, to ensure seamless integration of community features into platform. Contributed to development of robust back-end systems, ensuring high performance, reliability, and security for community software.

- Ensured continuous and reliable data flow for project management systems, by engineering a high-availability data synchronisation framework in collaboration with a senior engineer, utilising Kubernetes and webhook technologies.
- Enhanced synchronisation of mirrored repositories across diverse cloud environments and Git platforms, including GitHub, GitLab, and self-hosted systems, by devising/implementing robust strategy for integrating rebase feature within internal Git tool.

Andela, Lagos, Nigeria Software Developer

2019 – 2019

Engineered core architecture for a content creation engine, facilitating seamless content generation and management. Collaborated in constructing user interface (UI) client to integrate with engine, optimising user experience and functionality. Integrated third-party APIs and services to enhance application functionality and user experience. Implemented automated testing protocols and debugging techniques to ensure application performance and reduce downtime.

- Achieved maintenance of version tree by deploying advanced version tracking algorithm to calculate content divergence.
- Enabled users to view correct version, while commenting on specific content sections by guaranteeing precise version history management.

Askvisory, London, UK Software Developer, Remote

2017 – 2019

Directed migration to a serverless architecture, replacing physical servers with AWS services, including Lambda, Elastic Container Service (ECS), Memcached, API Gateway, and EC2. Crafted and implemented CloudFormation templates to automate deployment environments, ensuring efficient testing, builds, and updates of code. Engineered and co-developed a data mining system, employing parallel-coordinated workers to extract and consolidate data into a PostgreSQL database for downstream processing. Partnered with engineers to optimise system performance and ensure scalability.

- Ensured precise tracking and automation of invoicing for expert services by conceiving and contributing to development of billing system.
- Achieved seamless communication between customers and professionals by constructing telephony subsystem and integrating Twilio's API, enabling session-based billing accuracy by linking system to billing engine and automating expert consultation verifications.
- Delivered intelligent algorithm for professional ranking based on expertise, location, availability, and legal constraints by building and fine-tuning professional search and matching engine in collaboration with engineers.

Education

- Conducted in-depth research and authored thesis on application of nanoparticles to enhance material strength and durability.

Leadership & Volunteer Experience

Mentor, Remote | She Code Africa, Lagos, Nigeria, 2020 – 2020

- Contributed to increasing mentee retention and success rates in tech pipeline by offering career advice/personalised growth strategies.
- Provided one-on-one technical mentorship to aspiring female software engineers, fostering development in programming, debugging, and career readiness.
- Guided mentees through project-based learning and hands-on challenges, enhancing skills in front-end development, collaboration, and problem-solving.