

BOLU AJAYI

Backend Software Engineer | Full Stack Experience | Node.js, TypeScript & Python | AWS, Docker & Kubernetes
Leeds, UK · +44 7350 169537 · bolu4good@gmail.com · boluajayi.tech · github.com/boluwatifeajayi · linkedin.com/in/bolu-ajayi

SUMMARY

Backend-focused software engineer with 6+ years designing, building and operating production software, from AI-powered platforms and real-time marketplaces to cloud-native distributed systems. Experienced leading engineering in early-stage companies while remaining hands-on across backend architecture, infrastructure and full-stack product delivery. Recent work includes owning the backend architecture of a social commerce marketplace supporting up to 50,000 concurrent users, and an Innovate UK funded sustainability platform used across five West Yorkshire councils. Builds LLM-powered features into production systems and works fluently with modern AI-assisted development workflows.

TECHNICAL EXPERTISE

Languages TypeScript, JavaScript, Python, SQL
Backend Node.js, Express, FastAPI, REST API design, GraphQL, WebSockets (Socket.io), JWT & OAuth, OpenAPI/Swagger
Distributed Systems Microservices, event-driven architecture, RabbitMQ, Saga pattern, idempotency, dead letter queues, circuit breakers, retry policies
Databases PostgreSQL, MongoDB (incl. geospatial), Redis, Prisma
Cloud & DevOps AWS (EC2, S3, Lambda, CloudFront, CloudWatch), Azure, Docker, Kubernetes, CircleCI, GitHub Actions, Nginx
Observability OpenTelemetry, Jaeger, Prometheus, Grafana, distributed tracing, structured logging, request correlation IDs
AI Engineering LLM integration (OpenAI, Gemini), MCP, prompt engineering, retrieval over production data, LLM evaluation, AI-assisted development with Claude Code and GitHub Copilot
Integrations Stripe, Paystack, Agora, FFmpeg, Smile Identity (KYC), Firebase, Cloudinary
Frontend React, Next.js, React Native, Vue.js, Tailwind CSS
Practices System design, architectural decision records, code review, TDD (Jest, Pytest), CI/CD, Agile

EXPERIENCE

Senior Software Engineer · Auqli, Remote Jun 2024 – Jul 2026

- Owned the backend architecture of a social live-shopping marketplace covering orders, payments, wallets, logistics and real-time auctions, scaling it to support up to 50,000 concurrent users at peak.
- Designed the v2 order lifecycle end to end, defining the state machine and service interfaces behind multi-carrier shipping, payment capture and verification, returns, refunds and dispute resolution.
- Engineered webhook infrastructure spanning three payment and logistics providers, with signature verification, delivery logs and replay endpoints that cut production incident diagnosis from hours to minutes.
- Built the real-time layer: auction bidding over WebSockets with a REST fallback, plus live-stream session management and server-side video processing for seller broadcasts.
- Designed and shipped the buyer wallet system covering balances, top-ups, held funds and transaction history, alongside the revenue and livestream analytics sellers use daily.
- Integrated identity verification, social sign-in and push notification providers, and rebuilt the media pipeline with server-side image optimisation and a backfill migration across existing assets.
- Owened production: containerised deployments, CI/CD across staging and production, runtime monitoring and versioned database migrations.
- Set technical direction for the team, governed API evolution and versioning, ran code review, and coordinated releases with mobile engineers, designers and product managers.
- Introduced AI-assisted development workflows into day-to-day engineering, using them to accelerate delivery while holding review and testing standards unchanged.

Software Engineer (Contract) · CGLS Technology, Leeds, UK Dec 2025 – May 2026

- Lead engineer on SmartSustain, an Innovate UK funded platform that scores the sustainability of housing development sites for planning assessors across five West Yorkshire councils.
- Designed the backend and geospatial data model, with ETL pipelines unifying millions of postcode and government dataset records into queryable spatial collections.
- Engineered the scoring algorithm producing weighted 0 to 100 indices across environmental, economic, social and regulatory pillars for 700+ candidate sites, backed by live spatial queries over flood risk, road noise and air-quality data.
- Made every score defensible: an explain endpoint decomposes each calculation for audit, and an LLM-backed assistant answers natural-language questions about a site grounded in the underlying data.

- Optimised expensive spatial computations through geospatial indexing and a Redis caching layer, and automated planning-grade PDF report generation, cutting manual reporting effort by roughly 70%.
- Provisioned and operated the full AWS deployment from first commit to production, and delivered the map-driven React frontend consuming the platform APIs.

Full Stack Software Engineer · Falcon Aerospace, Hybrid Feb 2022 – Jan 2025

- Designed and built internal platforms for a private aviation business on Next.js and Node.js, deployed and operated on Azure.
- Delivered an HR system covering employee records, leave and multi-stage approval workflows, replacing manual paper-based processes.
- Engineered flight scheduling and crew rostering tooling, defining the backend APIs and admin dashboards operations staff use daily.
- Implemented push notifications and Progressive Web App delivery so staff could act on approvals and schedule changes from mobile.
- Built the customer-facing booking interface in React and optimised the booking flow, improving session retention by 22%.

Frontend Engineer · Black Copper, Fintech 2019 – 2020

- Built web and mobile frontends for a consumer lending product in React and Vue.js, delivering loan application, disbursement and repayment flows.

ENGINEERING PROJECTS

Fetch · Distributed food delivery platform github.com/boluwatifeajayi/fetch

- Polyglot microservices system of six services behind an API gateway, with database-per-service PostgreSQL and RS256-signed JWTs verified independently at each service boundary.
- Event-driven order flow over RabbitMQ implementing the Saga pattern for distributed transactions, with idempotency keys, the inbox pattern, dead letter queues, retry policies and circuit breakers for failure isolation.
- Instrumented end to end with OpenTelemetry, exporting traces to Jaeger and metrics to Prometheus and Grafana, with request IDs propagated through structured logs across every service.
- Containerised with Docker and orchestrated on Kubernetes, using Redis for caching and idempotency state.

Wevna · Workflow runtime for AI agents github.com/wevna/wevna

- Designing a workflow engine for AI agents around a typed runtime protocol of events, envelopes and sessions, with streaming transport over WebSockets and MCP-based tool integration.
- Architected the shared protocol package that gives the SDK, server and dashboard a single typed contract across a TypeScript monorepo.
- Backend handles session lifecycle, a pluggable storage abstraction and both REST and WebSocket APIs. In active development.

TD Agent · LLM-based repository intelligence, MSc dissertation github.com/boluwatifeajayi/td-agent

- Analyses a repository's full commit history with an LLM and scores technical debt in remediation minutes, unit-matched to SonarQube's SQALE index so the two are directly comparable.
- Designed the evaluation methodology benchmarking LLM analysis against static analysis across ten open-source repositories, with git churn and hotspot analysis and token-budget-aware file prioritisation.
- Runs analysis as background jobs behind a live dashboard, and surfaces architectural debt that static analysis misses.

cloudstorage-py · Multi-cloud storage SDK, published on PyPI github.com/boluwatifeajayi/cloudstorage-py

- One consistent storage interface across AWS S3, Google Cloud Storage and Cloudflare R2, so providers can be swapped by changing a single string.
- Typed data models, a unified exception hierarchy, batch operations and presigned URLs, with a fully mocked test suite.

OPEN SOURCE

AWS Cloud Development Kit (AWS CDK)

Contributed production code to the Amazon RDS module, implementing SQL Server 2025 engine support through issue discussion, design decisions, maintainer review and merged pull requests. Collaborated with AWS maintainers on follow-up improvements and compatibility discussions around new SQL Server Developer editions.

envy npm CLI for .env schema validation and codebase auditing. **serpcraft** TypeScript search-results parser.

EDUCATION

MSc Software Engineering · Leeds Beckett University, Leeds, UK Expected Sept 2026

Advanced Software Engineering, Cloud Computing, Agile Development. Dissertation: an empirical study of technical-debt footprints in large-scale microservices systems, comparing LLM-based analysis against SonarQube across ten open-source repositories.

BSc Computer Information Systems · Covenant University, Nigeria