FELIX KWASI SARPONG

Backend / Platform Software Engineer | Distributed Systems | AWS | Java (Spring Boot) + Python (FastAPI)
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SUMMARY

Backend-first engineer with 5+ years building reliable services and event-driven systems on AWS using Java/Spring Boot and Python/FastAPI. Delivered high-throughput distributed workflows (1M+ events/day; 20M+ events/month), improved incident response (MTTR −35%), and kept performance predictable (p95 ~140ms) via SQL optimization, Redis caching, and strong observability (Prometheus/Grafana). Experienced in security (OAuth2/JWT), correctness via explicit state machines/idempotency, and production operations.

CORE SKILLS

Languages: Java, Python • Frameworks: Spring Boot/Security, FastAPI • Systems: Microservices, REST, OpenAPI, Event-driven (Kafka) • Cloud/Infra: AWS (ECS/Fargate, Lambda, SQS/SNS, RDS, S3, IAM, CloudWatch), Docker, Terraform, CI/CD (GitHub Actions) • Data: PostgreSQL/Oracle/MySQL, Redis • Observability: Micrometer, Prometheus, Grafana • Testing: JUnit5/Mockito, Pytest • Reliability: idempotency, timeouts/retries, circuit breakers, runbooks/on-call

EXPERIENCE

Senior Software Engineer — FIDO (Global Fintech) | Remote (U.S.-facing) | Jan 2024 – Dec 2024
- Built and operated Spring Boot + FastAPI services at scale; hardened reliability with Resilience4j, idempotency, and safer retry/timeout policies.
- Cut MTTR by 35% using Prometheus/Grafana dashboards, alerting, and runbooks; improved p95 to ~140ms (~25% faster) via SQL tuning + Redis caching.

Software Engineer — EFT Corporation | Accra, Ghana / Distributed | Aug 2021 – Dec 2023
- Owned distributed services for a high-volume platform (20M+ events/month); improved tail latency 15–25% using caching and database/query tuning.
- Implemented OAuth2/JWT RBAC and operational controls; coordinated releases across teams with code reviews, CI checks, and clear rollout/rollback practices.

Software Engineer (Integration) — Republic Bank | Accra, Ghana | Oct 2020 – Jul 2021
- Built integration APIs (SOAP/WSDL/XML) and internal services; improved stability with strict validation, error handling, and observable logging.

Backend Developer (Contract) — Passmall | Accra, Ghana | Dec 2019 – Aug 2021
- Developed Python/FastAPI APIs for catalog/onboarding/checkout; improved delivery with containerization and tighter CI quality gates.

RESEARCH

Graduate Researcher (Machine Learning & Privacy) — Texas Tech University | Lubbock, TX | Jan 2025 – Dec 2025
- Built distributed ML experimentation pipelines with PyTorch Lightning + Opacus for privacy-preserving recommender systems.
- Designed adversarial evaluations and a WGAN-based attack framework under DP noise; paper accepted at ACM SACMAT 2026.

SELECTED PROJECTS

Senteniel — Agent-Safety Control Plane | FastAPI, GraphQL, MCP, Neo4j, Postgres, Docker
- Built a control-plane gateway that governs tool-using agents: sandboxed MCP execution (/sandbox), policy-gated ALLOW/BLOCK decisions, and audit-grade ToolDecision traces; benchmarks CrewAI vs LangGraph vs hybrid FSM.

AI Tutor Platform (Prod Deploy) | FastAPI, Postgres, Docker, AWS (ECS + Terraform)
- Deployed containerized services to AWS ECS using Terraform; implemented Postgres schema migrations (Alembic) and health checks for reliable rollout.

EDUCATION

M.S. Computer Science — Texas Tech University (USA) | 2024–2025 • B.S. Computer Science — KNUST | 2016–2020