

MCDONALD A. MPOFU

Backend Software Engineer | Mount Pleasant, Harare, Zimbabwe
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SUMMARY

Backend Engineer with a First Class BSc Honours in Computer Science. Brings two years' production experience building secure, scalable systems for enterprise clients — API design, event-driven architectures, and automation. That work grew into shipping ML systems and AI agents to production. Clear communicator and problem-solver, eager to build intelligent, reliable systems that solve real-world problems.

EXPERIENCE

Quantum Shift Technologies Backend Software Engineer	Remote Sept 2025 – May 2026
- Developed backend systems and server-side components in Java/Spring Boot; designed secure, scalable REST APIs and data-handling processes for production-grade business applications. - Implemented authentication and authorization with Keycloak (OAuth2/OpenID Connect) — role-based access control and identity management across services, endpoint hardening, and token/session security. - Designed and optimized PostgreSQL schemas and queries; supported integration, testing, debugging, and performance improvement. - Applied application security best practices — endpoint hardening, token and session management, and protection of sensitive business data — through to client-facing solution delivery.	
KaribuTech AI Junior Automation & Software Engineer	Remote Johannesburg Harare June 2024 – Sept 2025
- Built Java/Spring Boot backend services and Camunda BPM automation workflows for banking process automation, including retail and wholesale client onboarding. - Integrated microservices, REST APIs, and third-party systems with Apache Kafka for event-driven, end-to-end digital processes. - Developed backend services for ML-powered financial and credit scoring — integrating ML models into production APIs and data flows. - Built data pipelines and AI-enabled services for data processing, intelligent automation, and operational and analytical use cases.	
IRES · Trainingcred Institute Technical Trainer & Consultant (Freelance, per-course contracts)	Cape Town May 2025 – June 2026
- Deliver intensive corporate programmes for regulated financial-sector clients: advanced T-SQL, query optimisation, stored procedures, and database automation through to Python-based ETL and automated reporting — 100% completion on a 10-day flagship programme. - Run hands-on labs (SQL Server, pandas, Scikit-learn, SQLAlchemy) building ML models for predictive and time-series analysis on public macroeconomic datasets (IMF, BIS). - Design and build end-to-end ETL pipelines and automated reporting workflows — validation gates, error handling, Jinja2-templated outputs, and scheduled distribution. - Teach API/external-data ingestion, performance monitoring, and security and compliance practices (RBAC, least privilege, SQL injection prevention, GDPR/CCPA) for regulated environments.	

RECENT PROJECT

zivAI — AI Teacher & Student Assistant for O-Level Education	Link
Team Captain & Backend Engineer · Third Prize, Huawei ICT Innovation Competition 2025–26 (Southern Africa Regional Finals)	
- Architected a hybrid cloud-edge LMS that keeps schools operating offline — an edge node running MindSpore Lite inference synchronizes with the cloud when connectivity returns. - Developed AI agents with LangChain powering the teacher and student assistants — adaptive learning support for students, and agentic assistance for teachers with marking, lesson planning, and assessment authoring. - Built the Spring Boot backend and Flask AI services (automated short-answer grading, knowledge tracing, OCR marking); deployed on Huawei Cloud (CCE, ECS, RDS for PostgreSQL, OBS) with models trained on ModelArts/MindSpore.	

LEADERSHIP & IMPACT

Global Selection	Represented Zimbabwe at Huawei Seeds for the Future (Shenzhen, China); student representative of the national delegation.	Link
Competitions	2× Third Prize Regional Finalist & National Champion, Huawei ICT Innovation Competition Southern Africa (2024–25, 2025–26); Third Prize, IMC Challenge (2025)— international engineering and simulation competition.	
Technical Training	Trained professionals in regulated financial and research institutions across data engineering, ML & compliance.	

EDUCATION

University of Zimbabwe — BSc Honours in Computer Science, First Class	Aug 2022 – June 2026
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SKILLSET

Languages: Java · Python · SQL Backend: Spring Boot · Django · Flask · FastAPI · REST APIs · Microservices · Keycloak (OAuth2/OIDC) · Application security AI & Data: LangChain · AI agents · Scikit-learn · TensorFlow · PyTorch · Pandas · NumPy · ML-enabled applications Data & DevOps: PostgreSQL · MSSQL · MySQL · MongoDB · Apache Kafka · Docker · Git	
Languages: English · Shona · Ndebele · Zimbabwe Sign Language	<i>References available on request.</i>