

Peter Tinashe Mundowa

Data Scientist & AI Engineer | Machine Learning, Analytics, AI Agent Systems | Python, SQL, PyTorch, Power BI

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 GitHub

 LinkedIn

 Portfolio

 Zindi

PROFESSIONAL SUMMARY

Data Scientist and AI Engineer who turns messy, undocumented enterprise data into models, analytics, and governed AI systems that organisations trust enough to act on. Builds the full pipeline: from schema discovery and feature engineering on production ERP databases, through machine learning and analytics, to the AI agents and platforms that deliver results to decision-makers. Works across SAP Business One (SQL Server), Openbravo (PostgreSQL), and Python-based ML stacks. Microsoft Certified (Azure AI Engineer, Data Scientist, Power BI Analyst). Featured in ITU News. BSc Data Science & Informatics, University of Zimbabwe (graduating August 2026).

WORK EXPERIENCE

Data Scientist Jan 2026 – Present

AI Creative Solutions Harare, Zimbabwe

- **Machine Learning & Analytics:** Design and deploy ML models and analytics pipelines on live enterprise data, cutting insight turnaround from days to under **5 minutes** and reducing manual reporting effort by **~60%**. Feature engineering on undocumented ERP schemas across SQL Server and PostgreSQL.
- **Schema Discovery & Data Engineering:** Reverse-engineered a large, undocumented SAP Business One database into a complete relationship map (**95.56% join accuracy** across **225,000+ transactions**), establishing reliable data foundations for all downstream analytics and modelling.
- **AI Agent Systems:** Designed governed AI agents that query production databases in real time with safety layers (read-only enforcement, actor-scoped queries, row-capped results) making fabricated answers architecturally impossible. Prompt engineering and evaluation lifted response accuracy by **~30%**.
- **Production Platforms:** Built full-stack operational platforms (React, Express, PostgreSQL, Drizzle ORM) with role-based access, giving stakeholders self-service access to live analytical dashboards and metrics.

Revenue Assurance Intern Aug 2024 – Aug 2025

Steward Bank Harare, Zimbabwe

- Built **Power BI** dashboards with **DAX** for executive reporting, fed by a Python pipeline that automated daily RBZ exchange-rate extraction, cutting manual capture from **4 hours to ~15 minutes**.
- Ran SQL-based revenue reconciliations and built automation tools supporting audit, compliance, and risk workflows.

RESEARCH & SELECTED PROJECTS

ZimCropGuard: Hybrid CNN-Transformer for Crop Disease Detection 2025–2026

- BSc dissertation. Designed a hybrid **ResNet18 + multi-head self-attention Transformer** in PyTorch for tomato leaf disease classification (10 classes, ~14.88M parameters). Robustness-engineered via field-simulating augmentation, MixUp, and label smoothing.
- Simulated low-light **F1 improved +36 points** (0.42 → 0.78) with only 2-point clean-accuracy trade-off. Field evaluation across 3 device tiers and 2 lighting conditions with independent specialist labels.
- **Best Poster at IndabaX Zimbabwe 2026**. Selected for **Deep Learning Indaba 2027**.

Road Traffic Monitoring System 2024

- Real-time multi-class vehicle detection and tracking with **YOLOv8 + SORT** and a virtual counting line; exportable analytics for live traffic-management deployment.

COMPETITIONS & RECOGNITION

Featured	ITU News: “AI for Good: Meet the people powering ML solutions”	International
Best Poster	IndabaX Zimbabwe 2026: ZimCropGuard (CNN + Vision Transformer)	National
Selected	Deep Learning Indaba 2027, representing Zimbabwe	International
3rd / 85	ITU AI/ML Global Challenge: Environmental Footprint	International
3rd / 10	IndabaX Zimbabwe 2025: Face Spoofing Detection Hackathon	National
8th / 47	Zindi: Maize Crop Disease Detection Challenge	Continental
10th / 40	IndabaX Zimbabwe 2026: Loan Default Prediction Hackathon	National
41st / 374	Zindi: DigiCow Farmer Training Adoption Challenge	Continental

COMMUNITY & LEADERSHIP

Zindi Ambassador for Zimbabwe 2024 – Present

Organises data science events, coordinates ML competitions, and mentors practitioners across Zimbabwe. Hosted “Building a Successful Career in Data & AI” (100+ attendees).

Right for Education Zimbabwe: Chapter Lead & Author 2024 – Present

Led the R:Ed Zimbabwe Chapter (VP, then President). Published 10+ articles on African technology, entrepreneurship, and leadership. Recipient of the R:Ed **Leadership Beacon Award**.

EDUCATION

University of Zimbabwe	BSc Data Science and Informatics (<i>completed; graduating Aug</i>)	2022 – 2026
WorldQuant University	Applied AI Lab + Applied Data Science Lab	2023 – 2025
Aspire Institute	Aspire Leaders Program (global competitive cohort)	Jan – Mar 2025

CERTIFICATIONS

• Microsoft Azure AI Engineer Associate	2026	• DataCamp Data Analyst & SQL Associate	2024
• Microsoft Azure Data Scientist Associate	2026	• DataCamp Data Scientist Associate	2024
• Microsoft Power BI Data Analyst Associate	2026	• McKinsey Forward Program	2024
• DataCamp Data Engineer Associate	2024	• YALI Fundamentals of Responsible Leadership	2024

TECHNICAL SKILLS

- **ML & Data Science:** PyTorch, TensorFlow, scikit-learn, LightGBM, XGBoost, EfficientNet, Vision Transformers
- **Computer Vision:** YOLOv8, OpenCV, SORT, CNNs, transfer learning, robustness engineering
- **Languages:** Python, SQL, T-SQL, JavaScript/TypeScript
- **Databases:** PostgreSQL, SQL Server, MySQL, Drizzle ORM
- **BI & Analytics:** Power BI, DAX, Power Query, data modelling, star schemas
- **Data Engineering:** ETL pipelines, schema discovery, data marts, Python automation
- **AI Agents:** MindStudio, prompt engineering, agent orchestration, RAG, LLM evaluation, evidence governance
- **Full-Stack:** React, Express.js, Node.js, REST APIs
- **ERP Systems:** SAP Business One (SQL Server), Openbravo (PostgreSQL)
- **Cloud & Tools:** Microsoft Azure, AWS, GitHub, Git