

# TIISETSO KHUMALO

## Web & AI Developer | AI Engineer

Johannesburg, South Africa

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## PROFESSIONAL SUMMARY

Innovative Web and AI Developer with over 1+ year of professional experience integrating Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), and AI-driven workflows into production-ready software systems. Strong background in building end-to-end AI applications across healthcare and education sectors, from research and prototyping to cloud deployment on AWS. Microsoft Certified in AI Engineering and Security, Compliance & Identity, with hands-on expertise in backend architecture, API design, database modeling, and scalable full-stack solutions

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## TECHNICAL SKILLS

### AI & Machine Learning

- LLM Integration (OpenAI & related ecosystems)
- Retrieval-Augmented Generation (RAG)
- Prompt Engineering
- Fine-tuning & Model Evaluation
- Agentic workflow

### Backend Development

- Python (FastAPI, Flask, Django)
- RESTful API Design
- Database Schema & System Architecture

### Frontend Development

- JavaScript/Vue.Js
- Nginx (Frontend Deployment & Reverse Proxy)

### Cloud & DevOps

- AWS EC2
- Linux Server Administration
- Application Deployment & Monitoring
- PostgreSQL Server Configuration
- CI/CD Fundamentals

### Certifications

- Microsoft Certified: **Azure AI Engineer Associate (AI-102)**
  - Microsoft Certified: **Security, Compliance, and Identity Fundamentals (SC-900)**
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## PROFESSIONAL EXPERIENCE

### Kion Consulting

**AI & Web Developer** | *February 2025 – Present*

#### Radiology Assistant Bot

- Developed an AI-powered radiology assistant to support medical professionals in analyzing medical images.
- Integrated computer vision and LLM-based reasoning to generate structured, easy-to-understand diagnostic insights.
- Focused on clarity, accuracy, and usability for clinical environments.

#### Kion Institute – AI-Powered Learning Management System (LMS)

- Core developer on a role-based AI-driven LMS offering performance analytics and personalized learning insights.
- Engineered a RAG-based lesson generation system, enabling administrators to generate lessons via prompts or uploaded documents.
- Designed and implemented backend systems, including database schemas, API architecture, and authentication flows.
- Built automated LLM-based quiz grading and analytics, providing real-time insights into learner performance.
- Played an instrumental role in system architecture and AI integration strategy.

#### CAPS Curriculum AI Tutor

- Assisted in building an AI-powered tutor aligned with the South African CAPS curriculum.
- Implemented Socratic-style prompting to guide students through problem-solving without revealing direct answers.
- Supported scalable onboarding for students across multiple subjects.

## Technical Leadership & Training

- Delivered hands-on training sessions for vocational workers and high school interns.
  - Specialized in Python, AI fundamentals, LLM usage, and Prompt Engineering.
  - Contributed to internal upskilling and mentorship initiatives within the organization.
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## EDUCATION

**University of South Africa (UNISA)**

**BSc in Mathematics and Computer Science**

*2025 – Present*

- Status: **Entering 2nd Year (2026)**
  - Key Areas: Discrete Mathematics, Calculus, Data Structures, Algorithms
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## PROJECTS & CONTRIBUTIONS

### AI Chatbot Ecosystems

- Designed and implemented multiple domain-specific chatbots.
- Performed fine-tuning, evaluation, and optimization for accuracy and reduced latency.

### Internal Training Programs

- Designed Python and AI training modules used to onboard 10+ junior developers and interns.
  - Covered AI fundamentals, LLM integration, and practical prompt engineering workflows.
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## CAREER OBJECTIVE

Seeking a Web / AI Developer or AI Engineer role where I can deepen my full-stack expertise, work on large-scale AI systems, and contribute to production-grade platforms that bridge cutting-edge AI research with real-world impact.