

KARABO MAKAU

SOFTWARE DEVELOPER

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Portfolio

Pretoria, Gauteng

SUMMARY

I am a passionate software developer, recently-completed Bachelor of Commerce in Information Systems (NQF-7) from North-West University, equipped with a strong foundation in software development, systems analysis, and IT solutions. I have a passion for Front-end development, Systems and Business analysis, following all SDLC principles, with a proven track record of delivering innovative technological solutions. I am committed to bridging the gap between academic knowledge and real-world industry applications. My technical proficiency combined with strong problem-solving skills and collaborative approach enables me to design and implement impactful digital solutions. I am driven by continuous learning and a genuine desire to contribute meaningfully to organizational success through cutting-edge technology and strategic thinking.

EDUCATION

Bachelor Commerce in Information Systems

North-West University

01/2022 - 11/2025

North-West

Matric (NSC Grade 12)

Nkgonyeletse Senior Secondary School

01/2014 - 11/2018

Limpopo

PROJECTS

2022 SATNAC Cybersecurity Hackathon: Telkom (2nd Place Winners)

<https://news.nwu.ac.za/nwu-students-win-big-cybersecurity-hackathon-challenge>

Prototype of a Sim Swap fraud detector and Rica app that minimizes the high rising rate of sim swap fraud through a harnessed high level of bio metric security features such as facial, fingerprint and voice recognition for verification purpose.

Contributions:

- Team Collaboration: Facilitated effective communication and coordination among team members to ensure smooth workflow during the hackathon.
- Problem-Solving: Assisted in brainstorming and evaluating ideas to enhance the app's design and user experience.
- Presentation & Reporting: Supported the team in preparing pitch materials and presenting the solution to judges clearly and persuasively.

2022 EPF Heritage Hackathon (3rd Place Winners)

Developed a Heritage awareness and Patenting website for South African Arts and culture industry.

- Eligible for artists to onboard and patent their work.
- Ensuring high level of privacy and policy alignment.

My Contributions were:

- Front-End Developer: Built a responsive, user-friendly interface for artist on-boarding and patent submissions.
- Business Analyst: Gathered requirements and aligned features with artists' needs and policy compliance.
- Software Analyst: Assessed workflows and implemented solutions for privacy and security compliance.

2023 SATNAC INDUSTRY SOLUTIONS CHALLENGE: Openserve Topic winners (1st Place)

<https://news.nwu.ac.za/student-team-shines-solutions-challenge>

Recognized as Best Innovative Solution: Disruptive Alternative Energy Solutions for Telcos Combating the Effects of Load shedding and Ensuring Cost Efficiency.

We Prototyped a Python based (SEMS) Smart Energy Management System

(Desktop-based Dashboard) for Telecommunication companies for optimizing the usage of alternative energy sources and to become Cost efficient during load-shedding or power cut-off.

Contributions:

- Software & Problem Analyst: Analyzed system requirements and optimized workflows for the Smart Energy Management System.
- Business Analyst: Gathered stakeholder requirements and ensured the solution aligned with telecom cost-efficiency and energy goals.
- Documentation Lead: Recorded all project work, including technical specifications, user flows, and business process documentation for reference and reporting.

2024 Vulavula Hackathon: Lelapa AI (1st Place Winners)

🔗 <https://news.nwu.ac.za/team-unitech-wins-first-place-hackathon>

Prototyped a municipality WhatsApp chat-bot that leverage a seamless prepaid meter query management, through usage of Lelapa API to translate, transcribe, converse, and tickets issuing, for the ground engineering team, administrative team and the consumers.

Contributions:

- Software & Problem Analyst: Analyzed chatbot workflows and ensured seamless integration with the Lelapa API for meter query management.
- Business Analyst: Gathered requirements from municipal teams and consumers to optimize functionality and user experience.
- Documentation Lead: Recorded technical specifications, user flows, and process documentation for the chatbot system.

2024 SATNAC Industry Solutions Challenge: Openserve topic winners (1st Place)

🔗 <https://www.youtube.com/live/SUIOTaeFPIY?si=h5DNydQDt9DtrKUU&t=1044>

Marking a second consecutive win, we developed an AI model that can identify priority network sites with high energy consumption, causing CO2 emissions and high energy costs. We leveraged the use of Isolation Forest unsupervised machine learning models to classify power consumption data across various network sites, detecting anomalies and ranking buildings for optimization.

Contributions:

- Front-End Developer: Developed a web application dashboard to visualize admin interactions and network site analytics.
- Business & Software Analyst: Gathered requirements, analyzed industry challenges, and defined software and AI model needs.
- Research & Preparation: Attended masterclasses, researched industry trends, and analyzed data to support model development and project strategy.

2025 Amanzi Ordering System - Final Year Project

🔗 <https://github.com/Bheki0987/Amanzi-Ordering-System>

Amanzi is a purified water ordering system designed for on-campus students at North-West University Mahikeng Campus, to seamlessly order water without any manual processing delays.

Contribution:

- Contributed as a Project Manager, helping the team by coordinating the tasks and ensuring a smooth SDLC Compliance.
- Also contributed as a front-end developer, ensuring that the system delivers a UI that is user-friendly and UX that users expect.

Personal Portfolio Web Application

🔗 <https://github.com/Karabo28Git/personal-portfolio1.0/tree/main/portfolio-website>

A modern, responsive personal portfolio website showcasing skills, projects, certifications, and experience with an integrated AI Chatbot assistant.

SKILLS

Problem Solving & Critical Thinking

Analytical & Business Requirement Analysis

Team Collaboration & Communication

mySQL, MongoDB, C#, Java, Node.js

HTML, CSS, Javascript, React, Node.js

API Integration

Data & Business Analysis

Microsoft Office Applications - Word, Excel, PowerPoint, Access, Outlook, Microsoft Project

Cisco Packet Tracer, Cryptography

Project Management

Power BI

CERTIFICATIONS

Microsoft Office-101 Certificate NEMISA	Digital Literacy NEMISA
Introduction to Cybersecurity Cisco Skills Networking	Describe Cloud MicrosoftLearn
Discovering SAP Business Technology Plat- form SAP	Solving Problems with Critical and Creative Thinking- IBM
Build Your Own Chatbot IBM	AI Fluency MicrosoftLearn

CERTIFICATE IN FULL STACK DEVELOPMENT
[FNB App Academy](#)

Fundamental Data Analysis Using Power BI
[Alison](#)

Introduction to Data Analytics Using Microsoft Power BI
[Alison](#)

Master Microsoft Power BI
[Alison](#)