

Otsogile Ogaisitse Onalepelo (Morena)

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WORK EXPERIENCE

AiGeniX, Gaborone, Botswana

January 2024 – Present

Chief Executive Officer & Lead Engineer

- Drive the strategic vision and mission, focusing on innovation and intelligent software solutions.
- Lead the design and development of AI-driven software systems, ensuring they are visually appealing, reliable, and user-friendly.
- Oversee the integration of cutting-edge artificial intelligence technologies to solve complex problems and enhance operational efficiencies.
- Manage cross-functional teams, including engineering, product development, and business strategy, to deliver scalable and practical solutions.
- Uphold the company's values of Innovation, Reliability, User-centricity, Integrity, and Aesthetic Excellence in all aspects of product development and business operations.
- Ensure all software products adhere to the highest quality standards, including ISO compliance, for consistent and trustworthy performance.
- Achieved first place in two Botswana Digital and Innovation Hub hackathon competitions, leading the company to victory in both events and awarded government contracts by the Ministry of Communication, Knowledge and Technology to develop the full solutions.

Weblogic Botswana, Gaborone, Botswana

January 2023 – January 2024

Technical Lead Software and Artificial Intelligence

- I spearheaded the creation of a knowledge-based verification system (KBV) for the Government of Botswana. This system employs data from NIS, CIPA, BAITs, BURS, and various other government sources to verify users on the 1Gov Platform.
- I spearheaded a hackathon for the work and residence permit system, integrating machine learning to automate permit decisions. Our company ranked among the top 5 out of 41 competitors.
- I spearheaded the BOPTECO hackathon and got second prize
- Made top 5 in the Diamond Hub Services Hackathon from a total of 19 competitors.
- I oversaw the creation of a physical verification system for Botswana police and commissioner of oaths, enabling in-person user verification.
- Directed the Electronic Identity (EID) Verification Admin panel's development for Botswana Government officials. It facilitates KBV question management, scoring, and verification attempt monitoring.
- Oversaw Logs Aggregator dashboard development, a business intelligence tool for Botswana Government, aggregating data and generating reports for services on the 1Gov Platform.
- Oversaw the redesign of the Water Utilities Cooperation website and mobile app.
- Led the company's product offerings by introducing AI and Machine Learning.
- Spearheaded the creation of the HRDC tender prototype, which secured a contract for the company valued at P9.8 million to develop the complete solution.
- Developed technical solutions and presentations for clients during the sales process.
- Led and grew the Software Engineering organization, fostering a professional and motivated team.
- Mentored junior developers, managed their performance and identified their training needs.
- Provided end-user training to ensure effective use of software solutions.

Toro Clinic, Palapye, Botswana

January 2018 – December 2022

Chief Technology Officer

- In charge of research, technological development, information, and technological strategy formulation.
- Developed and maintains the clinic's web-based hospital information management system, called Recosoft, utilized offline. Recosoft helps the facility fine-tune its marketing strategies to ensure a ROI by analyzing and evaluating them using KPIs and acted upon using reports generated by reporting dashboards I developed and embedded into Recosoft.
- Developed the clinic's website accessible online at <https://toroclinic.com/>. The website plays a vital role in the clinic's digital marketing and transformation strategy as it is search engine optimized and it makes it easy for clients to schedule appointments online.
- Created progressive web apps for breast cancer and pneumonia prediction, aiming to enhance patient diagnosis and treatment. Both projects are accessible in the project section.
- Teamed up with in-house physicians to implement precision medicine, a groundbreaking strategy considering individual variations in genes, environments, and lifestyles for disease prevention and treatment.

Always Open Clinic, Gaborone, Botswana

July 2016 – December 2016

Information Technology Intern

- Responsible for troubleshooting and fixing IT-related issues in the clinic.
- In charge of developing and implementing a web-based patient queue management system called Queue Master.

- Queue Master facilitated meaningful use of data generated from patient registrations, which was impractical before its implementation as the facility utilized traditional methods (pen and paper) for patient registrations. It makes it easy to allocate resources and budget, formulate policies, monitor and evaluate them, and generate collection ratio reports.

EDUCATION

University of Electronic Science and Technology of China, Chengdu, People's Republic of China

June 2021

Degree: Master of Engineering in Biomedical Engineering

Specialization: Bioinformatics & Machine Learning

Botho University, Gaborone, Botswana

January 2018

Degree: Bachelor of Science (Honors) in Health Information Management

Specialization: Clinical Informatics

Awards: 7 out of 9 Dean's List Awards; Best Student Award; Awarded a fully funded CSC master's degree scholarship.

YouTube, Online, Self-Taught

May 2016 – Present

Degree: Bachelor of Engineering in Software Engineering

PROJECTS

NFT-Market-Place-App (Skills: UML, React Native, Expo, MySQL, Python, FastAPI, Sklearn) – [Project Link](#)

- A react native (UI), FastAPI (Server) and MySQL(DB) non-fungible token market place where users can create NFTs, bid on other users' NFTs and get recommended NFT'S by a machine learning content-based filtering recommendation engine.

Pneumonia-Prediction (Skills: EDA, Python, FastAPI, React, Keras, TensorFlow, Pandas, NumPy, Seaborn, Matplotlib) – [Project Link](#)

- This is an end-to-end PWA and a convolutional neural network (CNN) project that classifies chest x-ray images of patients with lung disease (pneumonia) and those who do not have lung disease (normal). The model had a 0.90 AUC score, 0.91 Accuracy, 0.92 Precision, 0.94 Recall, and a 0.91 F1-score for class 0 (Pneumonia).

Breast-Cancer-Classification (Skills: EDA, UML, Python, FastAPI, React, Sklearn, Pandas, NumPy, Seaborn, Matplotlib) – [Project Link](#)

- An end-to-end PWA and a supervised machine learning (random forest) project which classifies patients' abnormal masses of cells (tumors) as either benign (non-cancerous) or malignant (cancerous). The model had a 0.99 AUC score, 0.99 Accuracy, 1.0 Precision, 0.97 Recall, and a 0.99 F1-score for class 0 (Cancerous Tumors).

Insurance-Cost-Prediction (Skills: EDA, UML, Python, FastAPI, React, Sklearn, Pandas, NumPy, Seaborn, Matplotlib) – [Project Link](#)

- Another end-to-end PWA and a machine learning (linear regression) project to predict the medical insurance cost of a person. The model yielded an R2 score of 0.79.

Recosoft (Skills: HTML, CSS, Bootstrap, JavaScript, jQuery, Ajax, MySQL, PHP, Xampp)

- It is an electronic medical records system that I developed and implemented first at Toro Clinic. It is currently deployed in 7 outpatient clinics in Botswana and has 70K plus patient files in my databases. All systems are utilized offline.

8 More Machine Learning Projects (Skills: EDA, ETL, Sklearn, Pandas, NumPy, Seaborn, Matplotlib) – [Projects Link](#)

- This is a compilation of other machine learning projects I have worked on. For these projects, I was applying random models to different problems and datasets.

COVID-19-CDD (Skills: EDA, ETL, Python, ChEMBL, Pandas, NumPy, Matplotlib, Bioinformatics, SciPy, Seaborn, Rdkit) – [Project Link](#)

- Conducted a computational drug discovery on FDA-approved drug compounds in an attempt to find a compound or molecule that could inhibit the function of SARS-COV2(COVID-19). Mann-Whitney-Wilcoxon test was used to test for statistical significance, with a p-value threshold observed at 0.05. Some distribution results were statistically significant.

Ithute Motswana Website (HTML, Materialize CSS, jQuery, PHP, MySQL) – [Project Link](#)

- I founded an NGO with fellow Batswana to assist students in obtaining international scholarships. We developed a website and utilized social platforms, successfully aiding several students in securing fully funded scholarships.

Parcks Website (Skills: React, React Snap, React Helmet, Chakra UI, FastAPI, MySQL) – [Project Link](#)

- Currently engaged in the development of a website for a UK-based startup, Parcks, which involves converting UI/UX designs from Figma into functional code. A portion of the website is already live on the company's domain, accessible at <https://parcks.com>

TECHNICAL SKILLS

Front End:	HTML, CSS, Bootstrap, Tailwind CSS, Materialize CSS, Chakra UI, JavaScript, jQuery, Ajax, React, React Native, Expo, SEO, WPO, PWA.
Back End:	XML, JSON, SQL, MySQL, Redis, PHP, Botman, Restful & SOAP APIs, Python, FastAPI, Twilio, Node Js, Express Js, Mongo DB, Postgres
Artificial Intelligence:	ETL, EDA, Data Visualization, NumPy, Pandas, Scikit-learn, Matplotlib, Seaborn, TensorFlow, Keras, Machine & Deep Learning Algorithms, Streamlit, Dialogflow, NLP, NLTK, Spacy, Gensim, fastText, Recommender Systems, dbt, Airbyte, Airflow, ZenML, MLFlow

Other Tools & Skills: Git & GitHub, GitLab, Docker, UML, A/B Testing, Pytest, Jest, Cypress, Web Scraping, Cloud Technologies, Postman, System Design, Design Patterns, People Skills, Presentation Skills, Linux, Microsoft Office, Docker.

REFERENCES

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