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# NTSHUXEKO MATHEBULA

## Software Engineer

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### WEBSITES, PORTFOLIOS, PROFILES

- My LinkedIn Profile
- My GitHub
- My Portfolio

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### PROFESSIONAL SUMMARY

Software Engineer with 2 years of consulting experience, skilled in MATLAB, Python, Docker, and RESTful APIs. Recently expanded into front-end and full-stack development using React, Next.js, JavaScript, HTML, CSS, and MongoDB. Experienced in building scalable, data-driven solutions with clean, maintainable code.

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### SKILLS

- **Programming Languages:** Python, JavaScript.
- **Frameworks & Libraries:** React, Node.js, Next.js.
- **Databases:** SQL (MS SQL Server, MySQL) and NoSQL (MongoDB).
- **Tools & Platforms:** Appwrite, Firebase, Convex, Vercel, Heroku, Hostinger.
- **Version Control:** Git, GitHub, GitLab.
- **Software Engineering:** OOP, TDD, code debugging and refactoring, MVP, application development.
- **Soft Skills:** Analytical thinking, problem-solving, communication, stakeholder engagement, collaboration, proactivity, team player.

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### WORK HISTORY

**Intermediate Consultant – Software Engineering, 02/2025 - Current**

**Opti-Num Solutions – Hybrid**

- Analyzed key account KPI's to inform development priorities and optimize user experiences.
- Developed user-friendly dashboard and visual interfaces to enhance business insights.
- Collaborated with client to define project requirements and translate technical solutions to results.
- Contributed to the creation of scalable, maintainable web applications, ensuring robust performance.

## **Junior Consultant - Software Engineering, 08/2023 - 01/2025**

### **Opti-Num Solutions – Hybrid**

- Managed tech support team and queue.
- Led tech support team, ensuring timely issue resolution and high-quality customer support.
- Conducted research to gather requirements and optimize web app project solutions.
- Designed and developed user-centric applications with elevated UX and functionality.
- Delivered software engineering solutions aligned with stakeholder goals.
- Applied data analytics & visualization techniques to monitor app performance & inform feature development.

## **Graduate Software Engineer, 02/2023 - 07/2023**

### **Opti-Num Solutions – Johannesburg**

- Collaborated with cross-functional teams to integrate new features and enhance app performance.
- Practiced agile development methodologies to deliver iterative improvements on projects.
- Streamlined and refactored codebases, improving maintainability and system reliability.
- Participated in code reviews and clearly communicated technical ideas to improve team output.
- Built user-focused applications that prioritized functionality, performance & user experience.

## **BI Graduate, 09/2022 - 01/2023**

### **Fraser Alexander – Rustenburg, South Africa**

- Identified workflow inefficiencies and contributed solutions to improve operations & delivery.
- Supported cross-team collaboration and provided guidance to ensure project continuity.
- Applied structured problem-solving and decision-making to enhance development processes.
- Delivered insights through dashboards and visual reporting, helping monitor outcomes & KPI's.
- Assisted in day-to-day operations while aligning technical contributions with broader business goals.

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## EDUCATION

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## **BSC (HONOURS): ENGINEERING (METALLURGY AND MATERIALS), 12/2022**

### **University of The Witwatersrand - Braamfontein, Johannesburg**

Design and research projects, data analytics and coding coursework, as well as committee experience.

- Distinctions in Physical Chemistry (2019) and Mathematics (2018), B in Structures and Properties of Engineering Materials (2020) and Research Project (2021).

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## PROJECTS

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### **Boy Band Website:**

#### *Responsive E-commerce Website*

- Designed and developed a fully responsive front-end website celebrating an iconic Irish boy band.
- Features include a Home, About and Store page with functional cart and checkout logic.
- **Tech Stack:** HTML, CSS, JavaScript.

### **Gemini 2.0 (Chat Agent Clone):**

### *AI Chatbot Web Application*

- Build a full-stack conversational AI web app replicating core features of Google Gemini.
- Enables users to interact with an intelligent chatbot for Q&A, content generation, and natural dialogue.
- **Tech Stack:** React, JavaScript, TailwindCSS, Node.js, MongoDB, Google AI, Vercel.

### **InterPrep:**

#### *AI-Powered Interview Preparation Tool*

- Developed a full-stack AI interviewer that simulates real interview scenarios using voice interaction.
- Enables users to prepare for role interviews through personalized and context-aware conversations.
- **Tech Stack:** React, TypeScript, Google AI, Vapi, Vercel, TailwindCSS, Firebase, Node.js.

### **Actual and Forecast Revenue Dashboard (Opti-Num Solutions):**

#### *Revenue Analysis Web Application*

- Created a data processing app that analyzes revenue and generates dashboards with actual and forecast revenue, MoM revenue variances, etc.
- The app enables users to generate automated reports with revenue insights.
- **Tech Stack:** MATLAB, Python, MS SQL Server, MATLAB Compiler SDK, Docker, RESTful APIs.

### **Technical Support Dashboard (Opti-Num Solutions):**

#### *Internal Support Performance Tool*

- Developed a web dashboard to analyze and visualize technical support performance metrics.
- Enables stakeholders make decisions using real-time interactive graphs and analytics.
- **Tech Stack:** MATLAB, MySQL, MATLAB Compiler SDK.

### **Production Monitoring App - BTT Remining (Fraser Alexander):**

#### *Real-Time KPI Tracking Application*

- Built a plant production data capture application for real-time operational monitoring.
- App was integrated with Power BI for visual reporting of KPIs and performance metrics.
- **Tech Stack:** MS Power Apps, Power Automate, SQL, Power BI.

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## CERTIFICATIONS

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- Introduction to Git and GitHub | MathWorks | 2024
- Deep Learning Onramp | MathWorks | 2023
- Machine Learning with MATLAB | MathWorks | 2023
- Object Oriented Programming | MathWorks | 2023
- Machine Learning Onramp | MathWorks | 2023
- Crash Course on Python | Google via Coursera | 2022
- Exploratory Data Analysis with MATLAB | MathWorks | 2022
- Python Project for Data Science | IBM via Coursera | 2022
- Statistics for Data Science with Python | IBM via Coursera | 2022
- Python for Data Science, AI | IBM via Coursera | 2022