

Nicholas Biiy Bwalley

Full-Stack Software Engineer | AI & LLM Engineer

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Professional Summary

Proactive Full Stack AI Software Engineer with 5 years of experience building scalable web applications and deploying production-grade machine learning systems. Skilled in Python, JavaScript, TypeScript, and the MERN stack, with deep expertise in creating AI Agents, Agentic AI workflows, Retrieval-Augmented Generation (RAG), and Model Context Protocol (MCP). Known for delivering user-focused, cost-effective solutions that enhance operational efficiency. Strong communicator and team leader, effective in dynamic, remote environments.

Core Competencies

• Python • JavaScript • TypeScript • C++ • Machine Learning • Deep Learning • NLP • AI/LLM Solution Architecture • Retrieval-Augmented Generation (RAG) • LangChain / LangGraph • Hugging Face Transformers • OpenAI-Agents-SDK • CrewAI • AutoGen • MCP • FastAPI • REST & GraphQL APIs • OAuth 2.0 / JWT Authentication • ReactJS / Redux • NodeJS • ExpressJS • Next.js • Redis Streams • MongoDB • PostgreSQL • MySQL • ChromaDB • FAISS • Cloud & DevOps (AWS, Render, Docker, GitHub Actions, CI/CD) • Kubernetes • Apache Kafka • Data Pipelines • Prompt Engineering & Fine-Tuning • Agile / Scrum • Technical Leadership

Work Experience

Freelance AI Software Engineer | Remote | Feb 2020 – Present

- Designed and delivered 15+ AI-powered applications for clients in e-commerce, fintech and real-estate, automating manual workflows and reducing costs by up to 40 %.
- Built end-to-end RAG chatbots with LangChain, OpenAI GPT-4o and ChromaDB, achieving customer-satisfaction scores above 90 %.
- Fine-tuned open-source LLMs (Llama 3, Mistral 7B) using LoRA/ QLoRA, Quantization and PEFT, lowering inference latency by 30 % while preserving answer quality.
- Integrated AI micro-services into existing MERN and Laravel stacks, cutting feature delivery time by 25 %.
- Led agile teams of 2–5 developers: set sprint goals, performed code reviews and mentored juniors in best practices.
- An active GitHub Account having done and completed over 160+ project in the past.

Network Engineer Intern | Turbo G & K Networks Ltd, Nairobi | Jan 2024 – Jun 2024

- Installed high-performance fibre-optic networks that boosted throughput by 30 % for SME clients.

- Launched an SEO-optimized company website, raising organic traffic by 40 % in three months.
- Restructured router-to-splitter layouts via ODFs to lift end-user speeds by 25 %.
- Maintained 99.9 % service uptime through proactive monitoring and rapid incident response.

Cybersecurity Analyst Intern | Senselearner Technologies Pvt., Remote | Sep 2023 – Dec 2023

- Performed vulnerability assessments and penetration tests on web apps, producing actionable remediation reports.
- Applied exploitation and post-exploitation techniques to validate security controls and harden systems.

Education

Exchange Program – Challenge Driven Education (CDE) Project Sustainable Urban Planning & Development – KTH Royal Institute of Technology, Stockholm, Sweden | Aug 2024 – Jan 2025

BSc Business Information Technology (First-Class Honors, GPA 3.8/4.0) – Strathmore University, Nairobi, Kenya | Sep 2021 – Jun 2024

Diploma in Business Information Technology (Merit) – Strathmore University,

Nairobi, Kenya | May 2019 – Sep 2021

Academic Projects

- Led AI-driven mobility optimization project for Viksjö in Sweden using Machine Learning Algorithms to drive insights and to inform municipality modelling transport efficiency and flow.
- Built “Stora Ecom”, a full-stack e-commerce platform demonstrating modern UX and scalable architecture.
- Researched on Spotify’s subscription model, proposing data-driven revenue-diversification strategies to increase their revenue growth.

Technical Skills

Languages: Python, JavaScript, TypeScript, Java, PHP, C++, SQL, NoSQL.

Frameworks/Libraries: React.js, Redux, TypeScript, Node.js, Express.js, Next.js, Tailwind-CSS, TensorFlow, PyTorch, LangChain, LangGraph, OpenAI-Agents-SDK, CrewAI, AutoGen, Hugging Face Transformers, MCP, RAG, FastAPI, OAuth2.0, JWT, GraphQL.

Databases: MongoDB, PostgreSQL, MySQL, ChromaDB, FAISS, AstraDB, Redis.

Cloud & Tools: AWS, Amazon Bedrock, Render, Docker, Git, GitHub, GitHub Actions, Postman, Linux, Webpack, Vite, MLflow, Kubernetes.

Certifications & Achievements

- Published research article in Ready Tensor's Agentic AI Challenge (Mar 2025).
<https://app.readytensor.ai/publications/ai-powered-customer-churn-predictor-TbSqV34bmnZy>
- Dean's List Award, Strathmore University, Academic Year (2021–2022), (2022-2023).
- 3rd Place Award, Weightlifting – Strathmore Sports Day (Aug 2023).

Languages

English (C2), Swahili (C2), French (C1), Swedish (A1), Spanish (A1)

Hobbies & Interests

Fitness coaching • Competitive swimming • Table tennis • Speed-cubing