



Denis Kuria
Machine Learning Engineer

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SUMMARY

Machine Learning Engineer with expertise in Retrieval-Augmented Generation (RAG), Large Language Models (LLMs), and AI-powered solutions. Skilled in machine learning, natural language processing, vector databases, and cloud computing. Experienced in building predictive models, recommendation systems, and AI-driven applications to optimize business processes. Strong background in technical writing, authoring in-depth guides on AI, cybersecurity, and programming for leading tech platforms. Passionate about leveraging RAG and LLMs to enhance information retrieval, automate workflows, and improve AI-driven decision-making.

EXPERIENCE

Technical Writer 08/2024 - Present
Twilio ↗

- Developed a Multilingual AI Support Agent: Created a comprehensive guide on building a multilingual AI support assistant using Twilio's SendGrid API and LangChain.js, enabling automated, language-specific customer support.
- Integrated Fetch API with Strapi: Explored the use of the Fetch API to perform CRUD operations on Strapi, facilitating authenticated API requests and enhancing backend interactions.

The New Stack 08/2024 - Present
Contributing Writer ↗

- Explored AI Agents' Impact on Digital Life: Authored an article examining how AI agents are poised to transform digital interactions, highlighting their potential to change personal and professional landscapes.
- Advocated for Trusted AI Responses: Discussed strategies to enhance AI accuracy by incorporating reliable sources, addressing challenges related to misinformation in AI-generated content.
- Demystified Vector Embeddings: Provided a beginner-friendly guide on vector embeddings, elucidating their significance and applications in AI and machine learning.
- Analyzed Data Management Evolution: Explored the progression from SQL and NoSQL databases to vector databases, offering insights into their respective strengths and use cases.
- Compared Vector Libraries and Databases: Evaluated the suitability of vector libraries versus vector databases for AI applications, guiding readers on optimal data management strategies.

Developer Advocate 04/2024 - Present
Strapi ↗

- Developed AI-Powered Content Management Solutions: Created guides on integrating Strapi with LangChain.js, OpenAI, and vector databases to build AI-driven applications.
- Optimized API Consumption and Data Retrieval: Explored the use of Fetch API, REST, and GraphQL to efficiently interact with Strapi's Content API for dynamic data management.
- Built Scalable Web Applications: Demonstrated best practices for using Strapi as a headless CMS with frameworks like Next.js and React to create dynamic front-end applications.
- Enhanced Content Workflow Automation: Provided insights on automating content workflows with Strapi, integrating it with cloud storage solutions, authentication systems, and external APIs.

Technical Writer 04/2024 - Present
Zilliz(Creators of Milvus) ↗

- Authored In-Depth Articles on AI and Machine Learning: Developed comprehensive articles on topics such as Retrieval-Optimized Embedding Models, DeepRAG, and the impact of AI models like DeepSeek R1, contributing to the understanding of advanced AI concepts.

- Explored Multimodal AI Integration: Investigated the integration of audio, text, and vector search in AI systems, enhancing the understanding of multimodal AI applications.
- Discussed Advancements in Information Retrieval: Explored the role of rerankers in enhancing information retrieval systems, providing insights into improving search result relevance.
- Contributed to External Publications: Authored articles on integrating vector databases with existing IT infrastructure and the impact of AI agents on digital life, expanding the reach of technical insights.

Machine Learning Engineer
Fizma Africa ↗

05/2023 - Present

- Develops predictive models for customer churn analysis, this has resulted in a 23% reduction in customer attrition.
- Creates automated ETL pipelines for ingesting, cleaning, and transforming large datasets, streamlining data processing.
- Utilizes NLP techniques to extract insights from customer feedback and sentiment analysis, contributing to product improvement.
- Develops and deploys recommendation systems to increase user engagement and drive revenue growth.
- Presents data-driven insights to non-technical stakeholders in an understandable and persuasive manner.

Technical Writer
CloudZilla.ai ↗

01/2021 - 12/2024

- Developed Computer Vision Applications: Created a tutorial on building a finger counter using OpenCV and Python, demonstrating real-time object detection techniques.
- Explored Digital Forensics and Data Recovery: Provided a guide on recovering deleted files using Foremost, showcasing forensic tools and techniques for data retrieval.
- Analyzed Machine Learning Evaluation Metrics: Explained key regression evaluation metrics, helping developers assess the performance of machine learning models effectively.

Technical Writer
MakeUseOf ↗

12/2022 - 12/2023

- Authored Comprehensive Guides on AI Frameworks: Wrote in-depth tutorials on LangChain LLM, covering foundational concepts, comparisons with other models, and implementation steps.
- Provided Python Programming Enhancements: Shared best practices for writing cleaner and more efficient Python code, including context managers, optimized conditional statements, and enumeration techniques.
- Developed Coding Tutorials: Created step-by-step guides on text analysis, API consumption, and data processing using Python and relevant libraries.
- Explored API Integration Techniques: Covered the use of Django templates for API consumption and developed news applications with Python and Tkinter.
- Shared Best Practices for Dependency Management: Provided insights on handling project dependencies, ensuring compatibility, and improving software maintainability.

EDUCATION

Meru University of Science and Technology - Bachelor of Science, Computer Science
Developed a mental awareness chatbot system as a nal-year university project.

04/2019 - 04/2023

CERTIFICATES

Ethical Hacker ↗
Cisco

12/2023 - 05/2024

SKILLS

| | | | |
|-----------------------------------|--------------|--|----------|
| Large Language Models integration | Expert | Python | Expert |
| Cybersecurity & Digital Forensics | Intermediate | Cloud & API Development | Advanced |
| Computer Vision | Intermediate | Vector Databases & Search | Advanced |
| Technical Writing | Expert | Artificial Intelligence & Machine Learning | Advanced |
| JavaScript | Intermediate | Retrieval-Augmented Generation (RAG) | Expert |

LANGUAGES

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|---------|--------|---------|--------|
| Kikuyu | Native | English | Fluent |
| Swahili | Native | | |