

John Macharia Ngugi

Software Engineer | Machine Learning Specialist

(Python, Java, C++/C, ASP.NET, React Js, Node.Js, Spss, R programming, Matlab, Machine learning/deep learning, 5HTML, CSS, Javascript, Database(mariadb, mysql, sqlite, mongoDB) Android and Flutter)

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Professional Summary

Enthusiastic Software Engineer with 4+ years of experience specializing in AI/ML, full-stack development, and cloud computing, backed by a strong foundation in Computer Science and Mathematics. Proven track record in building scalable web applications (Django, Flask, Spring Boot), deploying deep learning models (Python, TensorFlow, PyTorch), and delivering data-driven insights (Power BI, Tableau, MATLAB) for organizations like Timsale, Sky Top, Pynetdev, and the University of Nairobi. Adept at end-to-end system design, from backend APIs (Node.js, ASP.NET) to cross-platform mobile apps (Flutter, Android), with additional expertise in DevOps (Linux servers, Docker, SaaS), database optimization (PostgreSQL, MySQL), and enterprise IT (Windows Server, Active Directory, Microsoft Navision).

Certifications

- MATLAB Certification- Kisii University
- SPSS Certification -Kisii University
- R Certification – Kisii University
- Certificate in Web Design – Huawei
- Artificial Intelligence Fundamentals -IBM

- Machine Learning- Amazon
- Cloud computing- Amazon and Huawei

Technical Skills

- Programming Languages: Python, Java, C++, C, JavaScript, Ruby, Assembly language
- Database administration
- Web Development: Django, Flask, Spring boot, Maven, Tomcat, Node.js, Express.js, Next.js, ASP.net,
- Machine Learning: Deep Learning, Machine Learning, Artificial Intelligence
- Data Analysis: SPSS, MATLAB, R
- Business Intelligence: Power BI, Tableau, SQL/NoSQL DBs, ETL pipelines
- Networking and cabling
- Windows server, Active directory Management
- Microsoft Navision
- API Integrations
- Cloud Computing
- SaaS
- Linux servers
- Mobile: Flutter, Android SDK, Firebase integrations

Education

Master Degree in Computer Science

University of Nairobi

Bachelor of Science in Computer Science and Mathematics

Kisii University

Kenya Certificate Secondary Education

Mirangine Secondary

Kenya Certificate Primary Education

Elburgon D.E.B primary school

Professional Experience

University of Nairobi (UoN)

I have extensive experience working at the University of Nairobi (UoN) in various capacities. As part of the network support team, I was responsible for maintaining and optimizing the university's network infrastructure, ensuring smooth connectivity and efficient data transmission. In the desk support role, I provided technical assistance to faculty, staff, and students, troubleshooting hardware and software issues to keep operations running smoothly. Additionally, I supported the Main Campus, addressing diverse IT needs, from user training to system upgrades, contributing to the overall functionality and productivity of the university's technological ecosystem.

Sky To(freelancing)

- Played a key role in developing and optimizing algorithms for image recognition in aerial imagery, contributing to a 30% reduction in processing time.
- Worked closely with UI/UX designers to create user-friendly interfaces for complex applications, resulting in positive user feedback and increased adoption rates.
- Implemented security protocols to safeguard sensitive data, ensuring compliance with industry standards and regulations.
- Collaborated with the research and development team to explore emerging technologies and integrate innovative solutions into existing projects.

Pynetdev tech Companies(freelancing)

- Developed and maintained backend systems using Java, C++, and C, python, android ensuring high performance and reliability of critical applications.
- Conducted thorough data analysis using SPSS, MATLAB, and R, providing valuable insights that informed business strategy and decision-making.
- Utilized Business Intelligence tools such as Power BI and Tableau to create interactive and visually appealing dashboards for data-driven decision support.
- Actively participated in Agile development processes, contributing to the continuous improvement of team efficiency and project delivery.

Projects

- Enhanced Product Recommendation System (Timsale): Implemented machine learning algorithms to optimize product recommendations, resulting in a 20% increase in customer engagement.
- Aerial Imagery Processing (Sky Top): Developed and optimized image recognition algorithms, contributing to a 30% reduction in processing time for aerial imagery.
- Data-Driven Decision Support (Pynetdev Companies): Utilized BI tools to create interactive dashboards, providing valuable insights for informed decision-making.
- GYM A.I: The GYM AI project is a computer vision-powered fitness assistant that analyzes workout form in real-time using AI pose estimation to provide corrective feedback and track performance metrics. It combines Django backend, PostgreSQL

database, and Vue.js frontend with MediaPipe/OpenCV for movement analysis to help users exercise safely and effectively.

University Website- Catholic university of East Africa and school port and Active directory Management and UoN website management

Referees

Bob Ogala, ICT UoN

0702684140

Francis Chage , ICT UoN

0721536852