

BRIAN WAMBUI

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SOFTWARE DEVELOPER(AI)

PROFESSIONAL SUMMARY

- As an accomplished AI/Machine Learning Engineer, I am a highly motivated and results-driven professional with a passion for developing cutting-edge models and systems. With expertise in deep learning, natural language processing, computer vision, and reinforcement learning techniques, I am dedicated to extracting insights from complex data sets to create value for my clients.
- My background in developing end-to-end AI/ML pipelines, from data collection and preprocessing to model training and deployment, enables me to design scalable and reliable systems that meet the highest industry standards. I am proficient in several programming languages, including Python, R, and Java, and have extensive experience with popular machine learning frameworks such as TensorFlow, PyTorch, and Scikit-learn.
- In addition to my technical skills, I have a strong background in mathematics, statistics, and data analysis. I am well-versed in cloud infrastructure and services, including AWS, Azure, and Google Cloud, and can handle high-demanding AI/Machine Learning jobs with ease.
- I also have experience in cybersecurity and API security, ensuring that the solutions I develop are always secure and compliant with industry standards. I am committed to staying up-to-date with the latest advancements in AI/ML, and am pursuing advanced certifications in the latest data and AI/ML technologies, such as AWS EMEA Innovate - Data & AI/ML and IBM Skillshare in Cybersecurity.
- With exceptional problem-solving, analytical, and communication skills, I am confident that I can handle any high-demanding AI/Machine Learning job and deliver results that exceed expectations. I am highly motivated, energetic, and always willing to learn, making me an ideal candidate for any AI/Machine Learning position.

EXPERIENCE

AI/Machine Learning Engineer, Freelance

Oct 2022 - Current | Nairobi

As a freelance AI/Machine Learning Engineer, I am responsible for developing, designing, and implementing machine learning algorithms and models for various applications and use cases. I collaborate with cross-functional teams, including data scientists, software engineers, and product managers, to understand the business requirements and translate them into technical solutions.

Key responsibilities include:

- Preprocessing, cleaning, and analyzing large datasets to ensure they are suitable for machine learning purposes. This involves understanding data requirements, performing data wrangling, feature engineering, and exploratory data analysis.
- Developing and implementing machine learning models using deep learning, natural language processing (NLP), computer vision, and reinforcement learning techniques. This involves selecting appropriate algorithms, training models, and fine-tuning them to improve accuracy and performance using appropriate evaluation metrics.

- Deploying models to production and monitoring their performance over time to ensure they continue to meet the business needs. This involves building end-to-end AI/ML pipelines, including data collection and preprocessing, model training, and deployment to production environments.
- Keeping up-to-date with the latest research and developments in the field of machine learning and artificial intelligence. This involves attending conferences, reading research papers, and experimenting with new technologies and approaches.
- Participating in code reviews and providing constructive feedback to improve the quality of the codebase. This involves working with other team members to ensure code quality, including documentation and unit testing, to ensure a reliable and maintainable codebase.
- Communicating effectively with clients or stakeholders to understand their needs and provide regular updates on project progress. This involves providing project status reports, managing expectations, and addressing concerns and issues as they arise.
- In addition to my technical responsibilities, I also take an active role in mentoring junior team members, providing guidance, and sharing my knowledge and expertise to help them grow in their roles. My experience in cybersecurity and API security ensures that the solutions I develop are always secure and compliant with industry standards.

SKILLS

- Algorithms and models development: Strong understanding of fundamental concepts in machine learning and ability to develop and implement various models using popular frameworks such as TensorFlow, Keras, PyTorch, and scikit-learn. Proficient in developing and fine-tuning deep learning models for computer vision, natural language processing, and reinforcement learning use cases.
- Data preprocessing and analysis: Experienced in cleaning, transforming, and analyzing large and complex datasets to ensure they are suitable for machine learning purposes. Expertise in feature engineering, selection, dimensionality reduction, outlier detection, and missing value imputation. Skilled in exploratory data analysis (EDA) techniques to identify patterns, correlations, and anomalies.
- Model evaluation and fine-tuning: Thorough understanding of various evaluation metrics such as accuracy, precision, recall, F1-score, and ROC curves. Strong ability to fine-tune models using techniques such as regularization, hyperparameter tuning, and ensemble methods to improve performance and generalization.
- Deployment and monitoring of models: Experienced in deploying machine learning models to production environments using containerization tools such as Docker and Kubernetes, and cloud services such as AWS Elastic Beanstalk and Azure App Service. Proficient in monitoring and managing model performance using cloud monitoring tools such as AWS CloudWatch and Datadog.
- Cloud infrastructure and services: Knowledgeable in cloud infrastructure and services related to data, AI/ML, and security. Skilled in using AWS services such as S3, DynamoDB, Redshift, EMR, SageMaker, Recognition, Comprehend, IAM, WAF, and Shield to build and manage end-to-end AI/ML solutions on the cloud.
- Cybersecurity and API security: Skilled in cybersecurity concepts and techniques, including threat modeling, vulnerability assessment, and risk management. Proficient in API security best practices and techniques such as authentication, authorization, encryption, and rate limiting. Experienced in using API security tools such as OAuth, JWT, and API Gateways to secure APIs.
- Programming skills: Proficient in Python, R, and/or Java programming languages, with a strong ability to write clean, efficient, and maintainable code. Familiarity with software development best practices such as version control, testing, and documentation.
- Big data technologies: Experienced in using big data technologies such as Hadoop, Spark, and Kafka to process and analyze large datasets using distributed computing techniques.
- Communication and collaboration skills: Strong ability to work effectively in a team, communicate technical concepts to non-technical stakeholders, and present technical concepts in a clear and concise manner. Experienced in Agile development methodologies and collaboration tools such as JIRA and Confluence.

EDUCATION

- **Bachelor of Technology (Information Technology)** - Technical University of Kenya - NAIROBI
 - **Certificate, Cyber Security IBM Skills Build Certification** - Data & AI/ML AWS EMEA Innovate - NAIROBI
 - **Certificate, API Penetration Testing** - APISEC University - NAIROBI
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LANGUAGES

- English, **Native**
 - Spanish, **Conversational**
 - French, **Conversational**
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VOLUNTEER-EXPERIENCE

- OpenAI Community: Actively participate in the OpenAI community by engaging in discussions, sharing knowledge, and mentoring other AI/ML professionals to help them succeed. Contributing to the growth of the community, fostering learning and development of others in the field.
 - TechSoup: Volunteered as an AI/ML Engineer to assist non-profit organizations in developing AI/ML solutions through TechSoup. Assisting these organizations in improving their operations and services, allowing them to deliver impactful services to their clients and achieve their mission.
 - Local Hackathons: Participated in several local hackathons and provided mentorship to teams to develop AI/ML solutions addressing real-world problems. Leveraged my skills and collaborated with others to develop innovative solutions that positively impacted local communities.
 - Online Mentorship: Offered online mentorship to students interested in AI/ML through various online communities. Shared my knowledge, provided guidance, and helped students develop the skills they need to succeed in the field of AI/ML.
 - By volunteering in various capacities, I have demonstrated my commitment to the field of AI/ML while also helping others succeed. These experiences have provided me with the opportunity to develop my skills, collaborate with others, and make a positive impact on my community.
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AWARDS

- 2x Kaggle Medals: Awarded silver and bronze medals in Kaggle competitions, demonstrating proficiency in developing effective AI/ML solutions.
- Microsoft AI Awards: I was nominated for a Microsoft AI Award in the innovation category for developing an AI-powered solution to detect plant diseases or diagnose medical conditions, showcasing my ability to deliver impactful solutions using AI/ML technologies in the agriculture or health sectors.
- Hackathon Recognition: Recognized as one of the top three teams in Hackbox competition for developing a computer vision system that could detect mask-wearing in public settings, demonstrating the ability to apply AI/ML technologies to real-world problems and work collaboratively with teams to deliver impactful solutions.

HOBBIES

In my free time, I enjoy various hobbies that promote a well-rounded lifestyle, including:

- Reading: I enjoy reading various genres, including non-fiction and biographies, to gain new knowledge and improve critical thinking and creativity.
- Swimming: This hobby helps me stay fit, relieve stress, and feel accomplished.
- Traveling: I love exploring new places, meeting new people, trying new foods, and immersing myself in local customs and traditions.
- Learning about new cultures and languages: I enjoy studying different languages and their unique grammatical structures, syntax, and cultural nuances to gain a deeper understanding of the world around me.

AFFILIATIONS

- As an experienced AI and machine learning engineer, I am an active member of several professional associations, including the Institute of Electrical and Electronics Engineers (IEEE), the Association for Computing Machinery (ACM), and the International Association of Artificial Intelligence and Robotics (IAAIR). These affiliations keep me up-to-date on the latest research and industry developments and provide me with opportunities for networking, collaboration, and mentorship.
- In addition to my involvement in professional associations, I actively contribute to several online tech communities such as GitHub and Stack Overflow. These platforms allow me to connect with other like-minded professionals, share knowledge and expertise, collaborate on projects, and troubleshoot common issues. By staying active in these communities, I stay up-to-date on the latest tools and technologies and contribute to the growth and development of the tech industry.
- Overall, my enthusiasm for technology is evident in my active participation in professional associations and online communities. I am committed to staying informed about emerging trends and best practices in the industry and am dedicated to using my skills to contribute to the field's growth and development.