Lorna Mugambi

+254720372944 · lornamugambik@gmail.com

LinkedIn · GitHub

Researcher

I am currently pursuing my MSc in Telecommunication Engineering and conducting research at the Centre for Data Science and Artificial Intelligence (DSAIL), Dedan Kimathi University of Technology in Nyeri, Kenya. My academic focus lies in AI, machine learning, health, environmental science, and ecology.

I have had the opportunity to contribute to several research projects. One of my notable contributions is a co-authored paper on the application of AI in diagnosing rheumatic heart disease. I have also been part of projects related to wildlife conservation and efficient image annotation, which are crucial in many machine learning tasks.

In summary, I am a researcher with a keen interest in leveraging AI and machine learning to address challenges in health and environmental science. I believe in the potential of these fields to shape our future

Professional Experience

Centre for Data Science and Artificial Intelligence (DSAIL) March 2021 - Present

Research Scientist

- Co-authored a significant paper on the application of AI in diagnosing rheumatic heart disease, potentially improving the efficiency and accuracy of RHD diagnosis.
- Contributed to the creation of an annotated camera trap image dataset from a conservancy in Kenya, providing valuable resources for wildlife conservation research.
- I participated in a project on efficient image annotation using YOLOv5, demonstrating expertise in applying AI techniques to real-world problems.
- Contributed to a paper on the use of unsupervised learning methods in medical image analysis, showcasing skills in advanced machine learning techniques.
- I contributed to a team that conducted a training session for 30 students, focusing on the application of AI in conservation. This involved the practical use of Raspberry Pi-based camera traps.

Safaricom, May 2019 - Aug 2019

Radio Access Network Optimization Intern

- Ensured 2G, 3G, and 4G network quality by monitoring key performance indexes with tools like U2000, PRS, COMM prove, and Power BI.
- Weekly KPI reporting on network performance, changes made to improve network performance Conducting drive tests and following up on customer complaints to ensure customers are having a smooth experience with voice and data
- Checking on alarms and liaising with the Field Engineers for fault clearance on BTS sites
- Planned new Base Transceiver sites using Atoll

Technical Skills: Python, Computer Vision, Data Engineering, Data Science, Deep Learning, Image processing, Machine Learning algorithms, Databases, Web development

Other skills: Qualitative and Quantitative research; Exceptional communicator; Outstanding Written Skills

Education

Dedan Kimathi University of Technology

Master of Science in Telecommunication Engineering

Dedan Kimathi University of Technology

Bachelor of Science in Electrical and Electronic Engineering

Certifications

NVIDIA

- Accelerating End-to-End Data Science Workflows
- Disaster Risk Monitoring using Satellite Imagery
- Getting Started with Deep Learning
- Getting Started with AI on Jetson Nano

CITI Program

- Data or Specimens Only Research

Cisco Networking Academy

- Introduction to Networks, Switching, Routing & Wireless Essentials, Security

IBM

- Python for Data Science, IoT, Cluster Analysis, Data Science & Analytic

Professional Bodies

Engineers Board of Kenya - Graduate Engineer

Publications

1. Y. Njathi, L. Wanjiku, L. Mugambi, J. N. Kabi, G. Kiarie, C. W. Maina, “Efficient Camera Trap Image Annotation Using YOLOv5,” 2023 IEEE AFRICON, 2023, pp. 1-61.
2. G. Kiarie, J. Kabi, L. Mugambi and C. W. Maina, "The use of Open-Source Boards for Data Collection and Machine Learning in Remote Deployments," 2023 IEEE AFRICON, Nairobi, Kenya, 2023, pp. 1-6, doi: 10.1109/AFRICON55910.2023.10293682.
3. Y. Njathi, L. Mugambi, L. ZÜHLKE, C. W. Maina, “Unsupervised Discovery of Echocardiographic Views for Rheumatic Heart Disease Diagnosis,” 2023 IST-Africa Conference (IST-Africa), 2023, pp. 1-101.
4. L. Mugambi, J. N. Kabi, G. Kiarie, C. W. Maina, “DSAIL-Porini: Annotated camera trap image data of wildlife species from a conservancy in Kenya,” Data in Brief, vol. 46, 108863, 20231.
5. L. Mugambi, G. Kiarie, J. Kabi, C. W. Maina, “DSAIL-Porini: Annotated camera trap images of wildlife species from a conservancy in Kenya,” Mendeley Data, vol. 6, 20221.
6. L. Mugambi, L. ZÜHLKE, C. W. Maina, “Towards AI based diagnosis of rheumatic heart disease: Data annotation and view classification,” 2022 IST-Africa Conference (IST-Africa), 2022, pp. 1-81.

Referees