

## KENNEDY KWEKU AKOGO

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### RESEARCH INTERESTS

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1. Machine Learning in Robotics
2. Artificial Intelligence for Societal Impact
3. Software Engineering
4. Internet of Things in Agriculture

### EDUCATION

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#### University of Mines and Technology (UMaT), Ghana

BSc. Computer Science and Engineering, **Second Class Upper Honors (76.7% out of 100%)**

**Relevant courses:** Data Structures and Algorithm, Software Engineering, Embedded Systems, Report Writing, Database Management System, Operating System, Information Security, Simulation and Modelling, Microprocessors, Digital Hardware Design, Human Computer Interaction (HCI).

### PROJECTS

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#### Medical Chatbot with LLM Fine-tuning & RAG

May 2024 – Sept 2024

- Developed a medical chatbot using a hybrid approach of fine-tuning lightweight open-source models and integrating RAG with medical literature.
- Built a Streamlit UI for interactive user engagement and improved patient experience.
- Optimized the model using LoRA to reduce computational costs while maintaining accuracy.

#### Heart Disease Data Visualization with Dash

May 2024 – Sept 2024

- Designed a responsive dashboard to visualize heart disease trends, risk factors, and geographic distribution
- Implemented choropleth maps, time-series analysis, and correlation heatmaps for data-driven insights.

#### Local Language Translation App for Ghanaian Languages (Capstone Project) May 2024 – Sept 2024

- Developed a language translation app to bridge communication gaps in Ghanaian local languages, promoting inclusion and accessibility
- Integrated features such as **text translation**, **audio-to-text conversion**, and **text-to-speech output** for seamless user interaction.

Accra, Ghana

#### Farmlynco Mobile App to link local farmers to consumers directly

July 2024 - Oct 2024

- Created an online marketplace connecting farmers with suppliers and buyers.
- Led the integration of IoT weather station for providing farmers with accurate weather forecasts.
- Developed AI-driven "Crop Doctor" for diagnosing and managing crop diseases.

Addis, Ethiopia

#### Drowsiness and Alcohol Detection system with a revenue generation model. Feb 2022 – Apr 2022

## Tarkwa, Ghana

- Implemented real-time drowsiness detection using facial landmarks.
- Integrated an MQ3 sensor for alcohol detection with alert mechanisms
- Designed a fine-based revenue model linked to detection result

## PROFESSIONAL EXPERIENCE

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### Really Great Tech – AI/ML Engineer

Oct 2024 - Present

- Engineered scalable machine learning pipelines for data preprocessing, model training, and deployment.
- Conducted data analysis and feature engineering to improve model accuracy and reliability.
- Collaborated with cross-functional teams to integrate AI solutions into production systems.
- Fine-tuned LLMs for domain-specific tasks, integrating RAG with external knowledge sources.
- Implemented and optimized MLOps pipelines for seamless deployment and monitoring of AI models.
- Spearheaded the adoption of Langfuse for AI observability and performance monitoring.

Accra Ghana

### Web Developer | The African Institution for Mining Professionals and Practitioners (*Present*)

- Built and maintained scalable web applications to enhance mining industry digitalization.
- Integrated AI-driven analytics to improve decision-making and operational efficiency.

### University of Mines and Technology - Tarkwa, Western Networking Intern

Oct - Dec 2022  
Tarkwa, Ghana

- Gained hands-on experience in network administration and maintenance.
- Assisted in troubleshooting and resolving network issues, contributing to improved network reliability.

### The African Institution for Mining Professionals and Practitioners – Web Developer Jan-Oct 2024

- Designed, developed, and maintained dynamic and user-friendly websites to support the institution's mission and goals.
- Monitored and resolved website issues to ensure seamless user experiences.

Accra, Ghana

## SKILLS & EXPERTISE

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- **Machine Learning Engineer**
- **Machine Learning & Deep Learning:** PyTorch, TensorFlow, Scikit-learn, FastAPI, Hugging Face
- **Large Language Models (LLMs):** Fine-tuning, RAG, LangChain, Transformers, LoRA, PEFT
- **Django Backend Developer**
- **Programming languages:** JAVA, PHP, Python.
- **Engineering Tools and Software:** Arduino, Raspberry Pi, Visual Studio, Latex, ENSP Network Simulator, Wireshark, Proteus, Fritzing.

## HONORS AND AWARDS

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- Participated in IndabaX Data Science Summit at KNUST **Jul 2024**
- Participated in Google Global Challenge **Jan 2023**
- Participated at the Tech in Ghana Conference by representing UMaT **May 2022**

## CERTIFICATIONS

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- Introduction to Cyber Security Tools and Cyber Attack, Coursera  
**Jan 2024**

## VOLUNTEERING EXPERIENCE AND CO-CURRICULAR ACTIVITIES

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### **Firm Health Ghana Foundation** **September,2024**

- Served as a graphic designer and designed all the flyers for the blood donation exercise.
- Collected personal data of the people during the blood donation exercise.

### **Agri-IoT** **August,2023**

- Contributed to the Agri-IoT project by implementing Arduino concepts, promoting innovation in agricultural technology as a volunteer.

### **Festive Kids Boot Camp** **September,2023**

- Trained 300 pupils from the Cape Coast Municipality in robotics and programming, fostering STEM education and digital literacy within the community.

### **A Football Goalkeeper in the community team**

## LEADERSHIP EXPERIENCE

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### **President of the Association of Computer Science and Engineering Students- UMaT Sept 2023 - 2024**

- Created a Mentorship Program where Senior Members mentor and provide guidance and to newer or less experienced members.

### **Artificial Intelligence Head, Aaenics UMaT Robotics Club** **Jan 2023 - 2024**

- Developed and implemented strategies to help members integrate Artificial Intelligence with Robotics

## PUBLICATIONS

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Emmanuel Effah1, Mohammed Yussif Umaru, Dodoo Frances Naa Densua, Ghartey George , **Akogo Kennedy Kweku**, “*Smart Road Accident Prevention System for Revenue Generation in Ghana*”, *International Journal of Computer Science and Information Security (IJCSIS)*, June 2023