

PRINCE MIREKU

Koforidua, E/R, Ghana

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RESEARCH INTEREST

Exploring multimodal learning approaches, focusing on the integration and alignment of vision and language models to develop robust, interpretable and reliable AI solutions, particularly for healthcare applications.

EDUCATION

University for Development Studies

2019 - 2023

B.Sc. Computer Science

CGPA: 4.54/ 5.0 (First Class) | **Rank:** 1/127

RESEARCH EXPERIENCE

Research Assistant

2023 - Present

C.K.T UTAS

Advised by Dr. Mohammed Daabo

- Analyze the effectiveness of self-supervision including techniques such as knowledge and data distillation in various domains with limited data.
- Explore synergistic applications of Computer Vision and NLP models to optimize domain-specific tasks within strict computational limits.

PUBLICATIONS AND ONGOING RESEARCH

(*) denotes equal contribution

Conference Proceedings and Journals

1. [Prince Mireku*](#), Jackline Mireku*, Bayitaa Strato Angsoteng and Mohammed Ibrahim Daabo. **From Limited Contexts to Rich Data: Elevating Twi NLP through Diverse and Verified Datasets.** 2024 [\[Extended abstract\]](#)
2. Strato Bayitaa* and [Prince Mireku*](#). **The Collective Knowledge of the Crowd: An Ensemble Approach Towards Efficiency and Interpretability in Biomedical AI** *Ongoing*
3. [Prince Mireku*](#), Bayitaa Strato Angsoteng*, Mohammed Ibrahim Daabo, Edward Opare-Yeboah and Joseph Agere. **Advancements in Generative AI for Multimodal Medical Diagnosis: A Review of Large Language Models and Image Generation Techniques** *Ongoing*

Non-Peer Reviewed Publications

1. [Prince Mireku*](#) and Mohammed Ibrahim Daabo. **Fault-Tolerant Techniques in Residue Number System for Reliable Arithmetic Operations** 2023 [\[Preprint\]](#)
2. [Prince Mireku*](#) and Edward Opare Yeboa*. **Comparative Analysis of Visual Basic and QBasic: A Comprehensive Study** 2023 [\[Report\]](#)

INDUSTRY EXPERIENCE

Co-Founder/Solutions Architect

2023 - Present

VimTech Smart Solutions

- Steer the strategic application of predictive analytics using TensorFlow to enhance real-time decision-making.
- Mentor a team of AI enthusiasts by organizing weekly meet-ups and occasional workshops.
- Integrated regression analysis algorithms via Python's scikit-learn into a client's financial service platform, achieving a 93% accuracy rate in predictive tasks.

Full-Stack Developer NSP

2023 - 2024

ReallyGreatTech

Remote

- Collaborated with Machine Learning Developers and LLM Engineers to design and implement seamless end-to-end applications for medical contexts.
- Developed responsive web interfaces utilizing React and Tailwind CSS, ensuring the precise implementation of high-quality design specifications across various projects.

Software Developer Intern

Oct '22 - Dec '22

Falcon Systems

Koforidua, E/R

- Conducted systematic maintenance and debugging of existing software solutions to enhance system stability and operational functionality.
- Optimized and restructured existing application codebase, achieving significant reductions in load times and enhancements in computational efficiency and performance metrics.

Project Manager

2020 - 2021

FencyWeb

Remote

- Orchestrated the entire project lifecycle, ensuring seamless integration of planning, and execution.
- Facilitated bi-weekly team meetings to recognize achievements, cultivate a collaborative atmosphere, and promote ongoing enhancements in project outcomes.

Web Developer

2019 - 2022

Founder: DevFreak

- Designed and shared free resources such as single pages, e-commerce websites, Adobe XD design files, etc. Online.
- Managed a YouTube channel with 270+ subscribers providing tutorials in web design and development.

SPOTLIGHT PROJECTS

AscoLab [\[Demo ↗\]](#)

An automated handwritten pumping test data extractor using ML techniques.

Received positive feedback after initial review by Ghana Water and Sanitation Agency, Koforidua

PalmMed [\[GitHub\]](#) [\[Demo ↗\]](#)

Designed and built a comprehensive app to be used at a hospital setting for heart disease prediction utilizing SVC for model training and LLM for context and report generation.

HONORS AND AWARDS

- **Dean's Award** for Best Graduating Student from Computer Science Department
- **Annual app contest** (Honorable Mention - 4th Place, \$100, University of New Mexico.)
- **GetFund Scholarship** Beneficiary (1 Trimester, Full tuition)

ACADEMIC SERVICES

Reviewer, Deep Learning Indaba (DLI) Conference, 2024