

# PRINCE MIREKU

Kofofidua, E/R, Ghana

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## RESEARCH INTEREST

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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

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**University for Development Studies**

2019 - 2023

B.Sc. Computer Science

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

## RESEARCH EXPERIENCE

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**Research Assistant**

2023 - Present

C.K.T UTAS

Advised by Dr. Mohammed Daabo

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

## PUBLICATIONS AND ONGOING RESEARCH

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(\*) 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

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**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

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### 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

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- **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

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**Reviewer**, Deep Learning Indaba (DLI) Conference, 2024