PRINCE MIREKU

Koforidua, E/R, Ghana
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RESEARCH INTEREST

Exploration of efficient approaches for aligning vision with language models and developing models that are structure and relationship-aware, particularly for tabular modalities.

EDUCATION

University for Development Studies 2019 - 2023
B.Sc. Computer Science
CGPA: 4.54/ 5.0 | **Rank:** 1/127

RESEARCH EXPERIENCE

Research Assistant 2023 - Present
C.K.T UTAS
Advised by Dr. Mohammed Daabo

- Investigates machine learning algorithms to develop efficient models for budget forecasting and predictive analytics applications in Ghana.
- Investigates how foundational models (Both CV & NLP) can be synergistically applied to downstream tasks within strict computational budgets.

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 [Preprint]
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-Yeboahand 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 [GitHub]
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