Prince Agyei Tuffour

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Education

Oregon State University, Corvallis OR

Master of Science in Mathematics; Specialize in **Facial Recognition & Optimization**
Kwame Nkrumah University of Science and Technology, Ghana
Bachelor of Science in Mathematics;

Skills

Languages: **Python**, Javascript, C++, SQL, Java, Typescript
Tools & Technologies: Git, Nextjs, Redis, AWS, Google Cloud, Playwright, Tailwind CSS, **Keras**, Pandas, **ScikitLearn**, Matplotlib, Deep Learning, **Linux/Unix**, PyTorch, **Tensorflow**, Selenium, Flask, Django, RESTful APIs, Express, Typescript, PostgreSQL, MongoDB, **React**, SciPy, Streamlit, **YOLO**

Work Experience

Software QA Engineer | ***dynaConnections Corporations*** March 2025 - Present

- Design and execute comprehensive test strategies including manual and automated testing protocols, API testing, user interface validation, and performance testing to ensure compliance with industry standards.
- Achieved **40%** improvement in overall product reliability and **60%** reduction in post-deployment bugs through implementing quality assurance best practices and establishing testing frameworks that catch edge cases early.
- Developed expertise in creating detailed test cases, performing regression testing, and analytical problem-solving that provides deep insights into software development lifecycle and ensures high standards of user experience.

Lead Software Developer/Executive Board Member | ***Akomapa Health*** March 2025 - Present

- Manage complete website workflow including server maintenance, database optimization, and feature implementation that supports 500+ active student users monthly with **99.8%** uptime reliability for health education platform.
- Developed automated content delivery systems and mobile-first design improvements that increased user engagement by **65%** and boosted mobile traffic by **80%**, making health information more accessible to student communities.
- Built interactive community platform enabling students to access peer-reviewed health content, participate in wellness challenges, and connect with certified health professionals, demonstrating how technology amplifies grassroots health advocacy movements.

Machine Learning Engineer - Intern | ***Cita Marketplace.com*** Summer 2022 & 2023

- Developed and deployed a machine learning recommendation system for the Cita Marketplace platform, enhancing personalized product recommendations and driving a **15%** increase in user engagement and conversion rates.
- Analyzed and optimized customer behavior data to create predictive models that improved the accuracy of search and product relevance by **20%**, resulting in better customer experiences and retention.
- Collaborated cross-functionally with engineering and product teams to integrate ML solutions seamlessly, accelerating development timelines and contributing to a **10%** faster feature rollout.

Graduate Research Assistant | ***Oregon State University*** September 2021 - December 2023

- Developed and fine-tuned machine learning models utilizing support vector machines (SVM) and decision trees for predictive analysis of complex data sets, achieving a **92%** model accuracy in identifying patterns within mathematical simulations.
- Implemented numerical optimization techniques such as **gradient descent** and **stochastic optimization** to solve high-dimensional mathematical problems, leading to a **25%** improvement in computational speed.
- Applied **principal component analysis (PCA)** and **t-SNE** for dimensionality reduction and visualization of multidimensional data, enhancing the interpretability of model outputs and revealing significant clustering in research data.
- Wrote Python scripts leveraging NumPy, **SciPy**, and **TensorFlow** to automate data preprocessing and build machine learning pipelines, which reduced data preparation time by **40%** and streamlined model training.

Projects

GradGPT.pro

- Designed and launched GradGPT.pro, an AI-powered graduate school assistant using GPT-4, streamlining school selection, application prep, and funding search for 1,500+ users.
- Integrated scraping tools, LLM-based Q&A, and secure chat saving to deliver tailored insights, boosting application efficiency and success for early-stage grad applicants.

Akomapa Health

- Engineered a Yale- and UCLA-backed health platform using React, Supabase, and TypeScript, reaching 25,000+ users and improving health literacy by **65%** in rural Ghana.
- Achieved **80%** rise in preventive care in high blood pressure and **300%** outreach growth via offline features, volunteer medical training, and integrated emergency contact systems.

ByDay Jobs - Demo App

- Designed and built a location-based service platform (like Uber for professionals) using React, Next.js, Google Maps API, and Stripe to connect skilled workers with local demand in real-time.
- Currently in pilot testing with early users across 5 cities; features smart job matching, secure payments, and user reviews, laying the groundwork for scalable job creation and gig economy growth in underserved markets.

Stay Afloat – Customizable LMS for Ghanaian Institutions

- Developed a flexible SaaS learning platform tailored for Ghanaian institutions, enabling remote students to access quality online education with customizable branding and course structures.
- Empowered 12+ schools to expand online reach, achieving **60%** higher course completion rates and **200%** increase in student engagement through localized features, payment integration, and real-time progress tracking.

GPU Memory Profiler for TensorFlow & PyTorch – Open Source

- Contributed to GPU memory profiling tool optimizing deep learning workflows by visualizing model memory usage for TensorFlow and PyTorch.
- Enhanced debugging, training efficiency, and memory usage visualization by identifying bottlenecks, aiding various ML practitioners in improving model performance.