PRINCE AGYEI TUFFOUR

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EDUCATION

Oregon State University - Corvallis, Oregon, USA **Graduating Fall 2023**
Major: Mathematics, MS **Awards:** Provost Scholar, 2021
Relevant Coursework: Linear Algebra, Programming and Data Structures, Linear Algebra, Applied Machine Learning, Probability, Numerical Analysis, Methods and Models of Applied Mathematics, Uncertainty Quantification, Simple Random Walks, Quantum Computing

Kwame Nkrumah University of Science and Technology - Kumasi, Ghana **Sept 2016 - May 2020**
Major: Mathematics, BS, magna cum laude **Awards:** Best Student, Department of Mathematics (2017, 2018, 2019, 2020)
Relevant Coursework: Discrete Mathematics, Scientific Computing, Optimization, Statistics, Introduction to Computer Programming, Regression Analysis, Probability, Calculus, Functional Analysis, Topology

Online Certifications: J.P. Morgan Software Engineering Virtual Experience Program, DeepLearning.AI and Stanford University Machine Learning Specialization (Coursera), Google Data Analytics Professional Certificate*, DeepLearning.AI and Stanford University Deep Learning Specialization (Coursera)* **(*= In progress)**

SKILLS

Programming Languages: Python, JavaScript, HTML, CSS, MATLAB, R, SQL, C, TypeScript,
Experience with: TensorFlow, PyTorch, Docker, Git, React, RapidAPI, Flask, Django

EXPERIENCE

Oregon State University, Graduate Teaching Assistant | Mathematics, Programming **Sept 2021 - Present**
- Instructed 230+ students in Calculus, Algebra, Analysis, and and 50+ students in intro programming courses.
- Gained classroom management and communication skills explaining complex concepts.
- Provided individual support to help students master challenging material.

The AFEX Hub, Database Management Specialist | Excel, SQL, Python **June 2016 - July 2021**
- Developed and maintained a SQL database tracking 500+ student records using Python.
- Generated reports with pandas and NumPy to provide insights on student performance.
- Improved average SAT score from 1350 to 1450 through data analysis and optimization.

FLEEF Ghana, Software Developer | Web Dev Team **Sept 2018 - Feb 2019**
- Collaborated with a team of developers to design and implement a responsive and interactive website using Python, HTML, CSS, and Javascript, with Flask as backend framework and Heroku as hosting platform.
- Overcame challenges of setting up Flask API and integrating Jinja templates into HTML files, resulting in a fully functional website with about 8 pages.
- Boosted organization engagement by 45% through improved accessibility and UX.

PROJECTS

YouTube Clone Web App | HTML, CSS, React **https://github.com/nanaagyei/youtube-clone**
- Developed an interactive YouTube clone web app using ReactJS that allows users to search, watch, and engage with videos.
- Built responsive UI with video playback and robust search powered by RapidAPI.
- Deployed app on Netlify demonstrating full-stack skills integrating frontend React with external YouTube APIs.

Anime Recommendation System | HTML, CSS, Javascript, Python, Flask **https://github.com/nanaagyei/recommendationsystem**
- Developed a full-stack anime recommendation web app using Python, Flask, HTML/CSS/JS.
- Implemented content-based and collaborative filtering algorithms for robust recommendations.
- Created an easy-to-use UI for users to search and discover new anime powered by machine learning models.

Snake Game | Python **https://github.com/nanaagyei/100daysOfCode**
- Created classic Snake game with Python's turtle graphics and gameplay logic with graphics and arrow key controls
- Implemented snake movement, growth, collision detection, scoring, and game restart features.

Facial Recognition using SVD and KL Expansions | Python, Applied Mathematics, Machine Learning
- Developing facial recognition system comparing SVD vs KL Expansion algorithms for dimension reduction.
- Reduced dataset of 10,000+ images to 150 eigenfaces improving classification performance.
- Achieved over 80% accuracy in facial recognition using KNN on both SVD and KL Expansion eigenfaces.