Joana Konadu Owusu

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Location: Laramie, Wyoming

Objective/ Summary

I am an MSc. Computer Science student supervised by Dr.Shivanand Venkanna Sheshappanavar. My research is in Computer Vision and Deep Learning targeted for Assistive Technologies. I am proficient in Java , JavaScript and Python language for Machine Learning and Software Development My professional goal is to obtain a role in an organization where I can contribute to meaningful projects and apply my expertise to develop impactful solutions.

Education

Master of Science (MSc) –Computer Science   Aug 2024 – May 2026(Exp. Graduation date)

University of Wyoming   GPA**:** 4.0

Bachelor of Science (BSc) –Computer Science & Engineering   Sep 2016 – Aug 2020

University of Mines & Technology   CGPA**:** 3.609

Research Experience

Estimating Optimal Path Route Finding for Emergency Response (Contributor)   Oct 2024 – Dec 2024
Location: University of Wyoming | WY, USA
Supervisor: Dr. Diksha Shukla

- Contributed to this research by developing a risk factor algorithm and appending it to the heuristics on maps to determine the shortest and safest route for emergency response.
- Worked on visualizing the determined path on the map using Network X framework.
- The aim of the research was to estimate an optimal path route finding for emergency rescue operations.
- Artificial Intelligence search algorithms including A*, Dijkstra and Bidirectional search were implemented comparatively to accomplish this task.

Nina: A Shopping Assistant Application for the Visually Impaired (Lead).   Jan 2020 – Aug 2020
Location: University of Mines and Technology|Tarkwa, Ghana
Supervisor: Dr. Millicent Agangiba

- Developed an android application for object and text recognition in real time. The aim is to assist visually impaired individuals to identify objects during grocery shopping.
- It operated via smartphone camera utilizing machine learning models, voice input and audio output to make it user accessible.

Projects

CNN for Cat and Dog Spectrograph Classification   Nov 2024 – Dec 2024

- Designed and implemented a CNN in Python using PyTorch framework to classify cats and dogs using their audio features (spectrograph images) as training patterns.
- Optimization techniques such as Batch Normalization, and Dropout were added to improve model performance.

Shopping Assistant for the Visually Impaired   Jan 2020 – Aug 2020

- Object detection model was trained using the Mobile Nets model on Google Colab with Python and deployed on Android with Java using Tensor Flow Lite for object recognition and classification.
- Google Speech to Text and Vision APIs were utilized to enable communication between the user and the application.

Self-Driving Car Simulation   Sep 2023

- Web based simulation of a self-driving car environment using feed forward neural network and genetic algorithm for optimization was developed using HTML, CSS, Vanilla Javascript.

Omni Blog   May 2022
- An online blog where readers can review articles, leave comments and ratings using React, HTML and CSS for frontend design and Express, Node.js for server-side development with MongoDB as my database system.

Work Experience

Graduate Research Assistant   Aug 2024 – Present

University of Wyoming | WY, USA

Supervisor: Dr.Shivanand Venkanna Sheshappanavar

- Conduct research in the Geometric Intelligence Research lab specializing in enhancing or developing deep learning and computer vision models for image segmentation, pose estimation and object classification.

Information Technology Coordinator   Nov 2021 – July 2024

Ghana Education Service |Kumasi, Ghana

- Administered and maintained the school's database systems and networks while maximizing the information technology tools and systems' efficiency and effectiveness
- Performed Network and System administration tasks on Windows Server and SAP software.
- Reviewed schools' system and network performance to make proactive adjustments based on established IT policies.

Field Enumerator   June 2021 – July 2021

Ghana Statistical Service | Accra, Ghana

- Conducted over 180 structured household interviews to collect accurate demographic and housing data, ensuring compliance with strict confidentiality protocols.
- Utilized GPS devices to record precise geographical data, contributing to the creation of comprehensive population maps.

Software Developer Intern   June 2018 –Aug 2018

Mobile Web Ghana | Accra, Ghana

- Assisted in the training of beginners in website development using WordPress, Google Sites, HTML, CSS and JavaScript.
- Learned about best software practices example; AGILE and how to incorporate it in the software development process.
- Worked with design teams and Senior Software Engineers to build customized software products for consumers using WordPress, Django, React, Node JS and MySQL frameworks.

Awards & Certification

Total Petroleum Undergraduate Scholarship	**Total Petroleum**	Sep 2017 – Aug 2020
Enterprise Design Thinking Practitioner	**IBM**	April 2021
Azure Fundamentals	**Microsoft**	July 2020

Skills

Technical Languages: Python, SQL, CSS, HTML, Java, JavaScript

Operating Systems: Windows, Linux, Mac OS.

Tools and Frameworks: Git, GitHub, Google Colab, TensorFlow, Numpy, Pytorch, Network X, Node JS, React, MySQL, MongoDB, Jupyter Notebook, SQLite, Android Studio, Visual Studio Code, Microsoft Office.

Soft Skills: Effective communication and organizational skills, Excellent writing and oral communication skills, Good leadership and problem-solving skills.

Extracurricular & Leadership Activities

Volunteer   **Inclusive Tech Group**   Nov 2020 – to date

- Actively contribute to the planning, execution, and coordination of internal events, including training sessions, conferences, fairs, and hackathons to advocate for Disability Inclusion in the technology space.