TADIWANASHE NIGEL NYAMAPFENE

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EDUCATION

Rust College **Holly Springs, MS**
Bachelor of Science in Computer Science: 4.0GPA *Expected December 2026*

Awards: EA Smith Honors Scholarship, Presidential Medallion Award (2023), CodePath x Base10 Travel Grant Recipient.
Relevant Coursework: Machine Learning and Data Science**,** Programming with Python**,** C++ Programming, Data Structures and Algorithms, Discrete Mathematics, Calculus I & II, Linear Algebra

SKILLS

Languages: Python, JavaScript, C++ | Django, Next.js, React, HTML, CSS
Technologies/Methodologies: TensorFlow, CNN, scikit-learn, AI, NLP| Git/GitHub| Pandas, Matplotlib, Seaborn, NumPy| Firebase, SQL

EXPERIENCE

Tufts University **Medford, MA**
Machine Learning Research Assistant June 2024-August 2024

- Developed an image classification model using TensorFlow and CNN to distinguish between aircraft variants and achieved an accuracy of **80.14%** on a dataset of 10,000 images of aircraft using Google Colab.
- Performed comparative analysis between Traditional Machine Learning and Optimal Transport, demonstrating that Traditional Machine Learning achieved greater accuracy and less time for model training and testing for this task.
- Gained data analysis and visualization skills by plotting training and validation loss during training and testing, effectively measuring and evaluating the model's performance.

Headstarter AI **Remote**
Software Engineering Fellowship July 2024-August 2024

- Built and deployed 5 AI projects in 5 weeks using React.js, Next.js, Firebase, Clerk, and Vercel with weekly sprints and incorporated CI/CD practices for iterative deployment.
- Collaborated with 3 fellows to build an interactive customer support agent using Next.js. Integrated a custom RAG pipeline using OpenAI and Pinecone enabling the agent to respond based on the company's knowledge base.

Rust College **Holly Springs, MS**
Math and Computer Science Tutor Aug 2023-April 2024

- Conducted personalized tutoring sessions in Math and Physics, helping more than 25 students improve their grades by an average of 20%.
- Developed and implemented tailored study plans for students across 3 subjects, resulting in average grade improvement on final examinations.

PROJECTS

Smart Pantry

- Engineered a full-stack smart pantry application using React, Next.js, Material UI, and Firebase, to enable users' seamless grocery management with real-time updates.
- Leveraged OpenAI API to implement a recipe suggestion feature based on available selected ingredients.

Aircraft Image Classification Model

- Developed an Image Classification model using TensorFlow to distinguish between 100 aircraft variants and achieved **80.14%** accuracy on 10,000 images of aircraft.
- Optimized the Convolutional Neural Network by adding BatchNormalization and Dropout layers, significantly enhancing feature extraction and boosting accuracy from **52.20%** to **80.14%**.

RemoTutor Chatbot

- Engineered a real-time tutoring chatbot using Django, JavaScript, and HTML/CSS, enhancing tutoring efficiency for students who prefer virtual learning environments.
- Designed an intuitive user interface with easy login increasing user satisfaction for remote sessions.

LEADERSHIP AND INVOLVEMENTS

- Elected Student Government Association (SGA), Junior Class Vice-President for the 2024-2025 academic year demonstrating strong leadership skills and commitment to student representation and engagement.
- Currently serving as the Student Lead for Public Interest Technology University Network, Rust College chapter https://techfc.org/student-clubs