Steve Nwaiwu

AI Researcher — NLP & Multimodal Learning — Explainability, Robustness & Fairness in Machine Learning
Rangsit, Thailand
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RESEARCH INTERESTS

Causal explainability in multimodal AI, fairness in disaster-response systems, robust learning under adversarial conditions, misinformation detection, vision-language modeling, counterfactual reasoning, and trustworthy AI.

EDUCATION

Rajamangala University of Technology Thanyaburi, Thailand — Jun 2024 – Dec 2025
Master of Science (Research) in Data & Information Science — Cumulative GPA: 4.00/4.00
Thesis Title: *Sentinel: A Causally-Grounded and Robust Architecture for Reliable Hate Speech Detection*

Rajamangala University of Technology Thanyaburi, Thailand — Jul 2020 – Apr 2024
Bachelor of Science in Big Data Analytics & Management — Cumulative GPA: 3.33/4.00
Thesis Project: Designed and implemented a centralized interactive analytics dashboard for institutional performance monitoring, enabling real-time data integration, visualization, and decision support across departments.

Yaba College of Technology, Lagos, Nigeria — Sep 2008 – Dec 2011
National Diploma in Computer Science — Cumulative GPA: 4.11/5.00
Completed applied projects focused on software development and database management. Gained hands-on experience in programming, systems analysis, and foundational computing skills essential for further specialization in data science and machine learning.

ACADEMIC EXPERIENCE

Rajamangala University of Technology Thanyaburi — Thailand
Undergraduate Python Tutor (Faculty of Science and Technology) — Jan 2024 – Mar 2024

- Provided peer-to-peer tutoring and supplementary instruction to first-year undergraduate students enrolled in introductory Python programming.
- Designed and delivered hands-on lab sessions, code walkthroughs, and debugging workshops to reinforce programming fundamentals.
- Supported students in developing mini-projects involving basic data manipulation and automation scripts using Python.

Rajamangala University of Technology Thanyaburi — Thailand
Graduate Teaching Assistant — Artificial Intelligence (AI) — Jul 2025 – Sep 2025

- Assisted in delivering graduate-level instruction in core AI concepts including search algorithms, classification, and neural networks.
- Led review sessions and provided feedback on student assignments involving AI model development and evaluation.
- Supported students in implementing foundational AI techniques using Python and frameworks such as scikit-learn and PyTorch.

PROFESSIONAL EXPERIENCE

Optice Tech LLC — Wyoming, USA
Web Developer — Feb 2020 – Jul 2023

- Drove website visibility and growth via strategic Google SEO and ad campaigns, meeting budget targets and increasing organic reach.
- Engineered dynamic front-end experiences using WordPress, developing custom web pages, plugins, and functionality.
- Integrated modern web technologies to maintain and upgrade website features, ensuring optimal user experience.

- Partnered with clients to troubleshoot and resolve website issues, leading to performance optimizations and swift resolution of queries.

Academic Resources Institute, RMUTT Thailand
Data Analyst Jun 2023 – Sep 2023

- Designed and maintained data visualization dashboards that simplified complex datasets for stakeholder understanding.
- Conducted comprehensive data analysis to uncover critical trends supporting strategic planning.
- Implemented visualization methodologies that enhanced communication of key performance metrics and resource allocation.

PROJECTS

COVID-19 Prediction Using Machine Learning Remote
Independent Researcher Jan 2023 – Mar 2023
https://github.com/Stevebankz

- Developed and trained supervised learning models (Random Forest, SVM, and XGBoost) to predict COVID-19 infection trends using real-time case data.
- Performed data cleaning, feature engineering, and hyperparameter tuning to improve model accuracy and generalization.
- Evaluated model performance using precision, recall, and F1-score metrics; visualized trends and predictions using matplotlib and seaborn.

Gold Stock Price Data Analysis Remote
Independent Analyst Oct 2022 – Dec 2022
https://github.com/Stevebankz

- Conducted time-series analysis of historical gold stock prices using Python (Pandas, NumPy) to identify market patterns.
- Built exploratory data visualizations to interpret trends, volatility, and correlations.
- Implemented regression models to forecast price movements using statistical learning.

SELECTED PUBLICATIONS

Journal Papers
Published

- S. Nwaiwu, et al., "The brittleness of transformer feature fusion: A comparative study of model robustness in engineering misinformation detection," *Results in Engineering*, ELSEVIER, vol. 20, 2025. DOI: 10.1016/j.rineng.2025.107783
- S. Nwaiwu, et al., "Decoding disinformation: A feature-driven explainable AI approach to multi-domain fake-news detection," *Applied Sciences*, MDPI, vol. 15, no. 17, 2025. DOI: 10.3390/app15179498
- S. Nwaiwu, et al., "Parameter-efficient fine-tuning for low-resource text classification: a comparative study of LoRA, IA3, and ReFT," *Frontiers in Big Data*, vol. 8, 2025. DOI: 10.3389/fdata.2025.1677331

Conference Papers
Published

- S. Nwaiwu, et al., "Fine-tuned BERT model for hate-speech detection in political discourse," in *Proc. Int. Conf. on ICT and Knowledge Engineering (ICT&KE)*, IEEE, 2024. DOI: 10.1109/ICTKE62841.2024.10787162

SELECTED COURSES

Master's Courses

- Machine Learning for Data and Information Science
- Data Analytics with Statistical Modeling
- Data Visualization and Communication
- Fundamentals of Data and Information Science
- Mathematical Optimization Techniques
- Research Methodology
- Database Systems
- Digital Business Management

Bachelor's Courses

- Artificial Intelligence
- Machine Learning
- Data Mining
- Advanced Data Analytics
- Statistical Modeling and Data Analysis
- Simulation and Modelling
- Data Visualization
- Database Management Systems

AWARDS

ECUBE Excellence Award — Thailand
Awarded by Rajamangala University of Technology Thanyaburi for outstanding academic performance. — 2021
TOEIC Excellence Award — Thailand
Awarded for achieving the highest TOEIC score in the province and university. — 2022

ENGLISH TESTS

TOEFL iBT: 80 (overall score)

Reading: 19 — Listening: 21 — Speaking: 22 — Writing: 18
Test date: March 2024

SKILLS

- **Programming:** Python, SQL, Bash
- **Frameworks & Libraries:** PyTorch, TensorFlow, Scikit-learn, Hugging Face Transformers, OpenCV, spaCy, NLTK
- **Tools & Platforms:** Jupyter, Weights & Biases, Git, Google Colab, VS Code, LaTeX
- **ML Techniques:** Deep Learning, Fine-tuning LLMs, Transfer Learning, Feature Attribution, Adversarial Training, Causal Inference
- **NLP & Multimodal:** Text Classification, BERT/GPT Models, Explainable AI, Vision-Language Modeling
- **Soft Skills:** Scientific Writing, Experimental Design, Critical Thinking, Research Communication, Collaboration

REFERENCES

Asst. Prof. Dr. Nipat Jongsawat
Faculty of Science and Technology, Rajamangala University of Technology Thanyaburi, Thailand
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Scholar Profiles: RMUTT Profile — Google Scholar

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Faculty of Science and Technology, Rajamangala University of Technology Thanyaburi, Thailand
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Scholar Profiles: RMUTT Profile — Google Scholar