Obafemi Jinadu

Massachusetts, USA

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SUMMARY

Doctoral Researcher with 2 years of industry experience and expertise in Computer Vision, Multimodal Machine Learning, and Generative AI.

EDUCATION

Tufts University, Massachusetts, United States			
Ph.D. Electrical and Computer Engineering (GPA: $4.0/4.0$)	Sep. 2021 -	Dec.	2025
M.Sc. Electrical and Computer Engineering (GPA: 3.92/4.0)	Sep. 2021 -	May	2023
Advisor: Prof. Karen Panetta			
Tufts Recognition: 2024 School of Engineering Award for Outstanding Academic S	Scholarship.		
Relevant Coursework: Computer Vision, Machine Learning, Statistical Pattern R	ecognition,		
Machine-centric programming in C/C++, Software Engineering, Operating Systems.			
Obafemi Awolowo University, Ile-Ife, Nigeria			
B.Sc. Electronic and Electrical Engineering (GPA: $4.31/5.0$)	Jun. 2014 -	Dec.	2019

TECHNICAL SKILLS

Programming Languages	Python, C, C++, CUDA.
Tools & Libraries	PyTorch, TensorFlow, Hugging Face, Singularity(HPC), Docker.
Others	Git, Jira, PowerBI, LaTeX, UiPath.

PROFESSIONAL EXPERIENCE

Visa, California, United StatesMay 2025 - Aug. 2025Staff Machine Learning Scientist Intern (incoming)

Tufts University, Massachusetts, United States - R1 Research Institute Graduate Research Assistant - Vision & Sensing Systems Laboratory

- Developing an image-text pair dataset with 100K images mapped to 1M text prompts for text-guided object detection in traffic analysis.
- Working on synthetic image-text data augmentation using diffusion and transformer-inspired models.
- Probing diffusion models and their applications in image enhancement to improve object tracking in low light.
- Achieved an 8% performance improvement in pose estimation by designing a state-of-the-art algorithm using High-Resolution networks and Vision transformers.
- Developed a deep learning algorithm for vehicle speed and traffic density estimation with a 0.7m/s error margin, integrated into an AI suite for highway traffic monitoring and anomaly detection.
- Achieved a 77.8% F1-Score in assessing building damage post-disaster by developing a semantic segmentation algorithm using satellite imagery.

KPMG, Lagos, Nigeria

Data Scientist / Machine Learning Engineer

- Increased customer retention by 35% through securing customer data and issuing targeted banking product recommendations using unsupervised learning and data anonymization.
- Automated data scraping on Nigerian FinTechs to inform national regulatory decision-making, using an RPA pipeline to remove human intervention and reduce daily process time by 7.4 hours.
- Modeled staff utilization, revenue, and KPI at individual, division, and unit levels for 1082 employees to provide KPMG partners with 100% visibility on the company's health.
- Developed "KPMG Sentilytics", a Twitter (X) sentiment analysis tool built with Python and PowerBI, which facilitated brand perception analysis and improved client customer satisfaction by 60%.
- Developed a COVID-19 model to track daily infection trends and monitor its impact on the Nigerian economy.

Mar. 2020 - Jul. 2021

Sep. 2021 - present

PROJECTS

- Improved animal re-identification accuracy by 8% for 92 individual Amur tigers by building a deep-learning probabilistic model using Maximum A Posteriori (MAP) estimation to counter overfitting with limited data.
- Re-implementation of key deep learning algorithm papers in PyTorch, including Denoising Diffusion Probabilistic Models, Vision Transformers, Conditional Generative Adversarial Networks (C-GANs), and Diffusion-GANs.
- Reduced sentiment analysis error rate by 8.6% using Bag-of-Words features and models such as logistic regression, neural networks, and support vector machines on customer reviews from IMDb, Amazon, and Yelp.
- Built an interactive user interface to an operating system, a "shell" in C.
- Implemented a direct indexed file system on a simulated disk in C.

PUBLICATIONS

Conference Papers & Presentations

- Oludare, V., Kezebou, L., **Jinadu**, O., Panetta, K. and Agaian, S., 2022, May. Attention-based two-stream high-resolution networks for building damage assessment from satellite imagery. In Multimodal Image Exploitation and Learning 2022 (Vol. 12100, pp. 224-239). SPIE
- Jinadu, O., Oludare, V., Rajeev, S., Kezebou, L., Panetta, K. and Agaian, S., 2023, June. Instant-level vehicle speed and traffic density estimation using deep neural network. In Multimodal Image Exploitation and Learning 2023 (Vol. 12526, pp. 125-138). SPIE.
- Jinadu, O., Rajeev, S., Panetta, K. and Agaian, S. An Impact Study of Deep Learning-based Low-light Image Enhancement in Intelligent Transportation Systems. In Multimodal Image Exploitation and Learning 2024 (Vol. 13033, pp. 154-171). SPIE. Project Github repository.

Journal Papers

- Sanghavi, F., **Jinadu, O.**, Oludare, V., Panetta, K., Kezebou, L. and Roberts, S.B., 2023. An Individualized Machine Learning Approach for Human Body Weight Estimation Using Smart Shoe Insoles. Sensors, 23(17), p.7418.
- Jinadu, O., Panetta, K., Heller, J., Rajeev, S., Panetta, K., Pereira, K. and Agaian, S., A Unified Approach to Pose Estimation in Elephants and Other Quadrupeds using Noisy Labels, 09 April 2025, PREPRINT (Version 1) available at Research Square [https://doi.org/10.21203/rs.3.rs-6397651/v1].

HONORS & AWARDS

Tufts University, Massachusetts, United States

- 2024 School of Engineering Outstanding Academic Scholarship Award.
- 2024 IEEE Signal Processing Society (SPS) Scholarship Award.
- 2025 Authored and won a \$125,000 equipment grant from The Bailey's Wildlife Foundation for field-based AI research.

KPMG, Lagos, Nigeria

• KPMG's Q1 Signals Repository Global Hackathon (3rd Place Winners) – KPMG Nigeria team lead. Feb. 2021.

Obafemi Awolowo University, Ile-Ife, Nigeria

- Petroleum Technology Development Fund (PTDF) National Scholarship 2016/2017, cumm. value: \$10,000.
- Chevron/NNPC Joint Venture National Scholarship Merit Award 2015/2016 cumm value: \$2,000.

LEADERSHIP & VOLUNTEERING

- IEEE-HKN (Eta Kappa Nu) Board of Governors member 2024 Student Governor.
- Journal Reviewer for IEEE Transactions on Artificial Intelligence.
- Journal Reviewer for IEEE Transactions on Systems, Man and Cybernetics: Systems.
- Reviewer for 2022 Virtual IEEE International Symposium on Technologies for Homeland Security.
- Supervised and mentored computer Science and data science Tufts Seniors on their final year capstone projects.
- Societies: IEEE, IEEE-HKN, AAAS, NSBE, Black in AI (BAI), SPIE.