Jason Uwaeze

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Education

Rice University — **Houston, TX**
Doctor of Philosophy in Computer Science — ***Expected:*** *May 2026*

University of Texas at Dallas — **Richardson, TX**
Bachelor of Science in Computer Science — *December 2022*

Experience

AI Clinical Imaging Scientist at Genentech, San Francisco, CA — ***June 2025 – Present***

- Develop an efficient context-aware multimodal neural network framework for real-world disease prognosis
- Utilized medical foundation models to integrate clinical features with HRCT embeddings
- Achieved SOTA disease prognosis with mean **AUC**, **F1**, and **Recall** scores of **0.87**, **0.78**, and **0.81**, respectively

Graduate Researcher at Rice University, Houston, TX — ***Aug 2022 – Present***

- Developed an attention-based deep learning approach for predicting future strokes in patients with CF-LVAD implantation using tabular and HRCT imaging data.
- Improved performance of TabNet model using CTGAN and SMOTE oversampling techniques
- Evaluate Vision Transformer Models for bias GPT-based concept bottleneck models
- Debiased chest X-Ray classifiers using StyleGAN3, ResNet50, SVM and latent space traversals
- Conducted unsupervised multiple sclerosis lesion tracking using dimensionality reduction (NLDR)
- Calculated Optic Nerve Sheath measurements using diffusion models and eye ultrasound images
- Performed MRI and X-ray image synthesis using diffusion models and latent interpolation •
- Proficient with image analysis tools such as Scikit-Learn, Scikit-Image, OpenCV, Pillow, PyTorch
- Research published at **ICCV'25**, **ISBI '24, NASA IWS '24, AAN '24**, **BMES '23**, and **Scientific Reports,**

AI Research Intern at Idaho National Laboratory, Idaho Falls, ID — ***June 2024 – Oct 2024***

- Leveraged 2D and 3D patch-based CNN models for 3D reconstruction and segmentation of nuclear material in FIB tomography images
- Achieved mean **F1**, **recall**, and **precision** scores of **0.84**, **0.83**, and **0.86**, respectively
- Utilized class activation maps to understand model behavior and choose an optimal error function for material characterization.
- Developed a framework for systematic registration of sparse images using Segment Anything.

AI Research Intern at IBM Yorktown, New York — ***May 2022 – Aug 2022***

- Developed a systematic approach for evaluating Large Language Models for fairness and bias. Research experience with Dr. Rogerio Abreu de Paula

Siemens Undergraduate Research Scholar at UT Dallas Richardson, Texas — ***Aug 2021 – Dec 2021***

- Research with Dr. Kanad Basu and Dr. Shamik Kundu on Effective In-field Testing for Functional Safety. Gained hands-on experience with Deep Neural Networks and adversarial weight attacks.

Undergraduate Researcher at UT Dallas Richardson, Texas — ***Mar 2021 – Dec 2021***

- Curated datasets with **1000** labeled anaphor-antecedent pairs to improve bridging resolution identifications in large language foundation models. Research with Dr. Vincent Ng and Dr. Hideo Kobayashi on Bridging Resolution.

Awards and Organizations

National GEM Consortium Doctorate Fellowship — May 2022 - Present

Toyota Research Institute (TRI) Master's Fellowship — April 2022 – April 2023

Semiconductor Research Corp Research Scholarship — Jul 2021 – Jan 2022

Publications

[1] Generative Counterfactual Augmentation for Bias Mitigation

Jason Uwaeze, Pranav Kulkarni, Vladimir Braverman, Michael A. Jacobs, Vishwa Parekh [Paper][Code]

[2] Patch-Based Convolutional Neural Networks for Multiple Microstructural Features Detection in FIB Tomography

Jason Uwaeze, Yalei Tang, Tanner Mauseth, Vladmir Braverman, Mathew Anderson, Yachun Wang, Fei Xu [Paper][Code]

[3] Automatic Active Lesion Tracking in Multiple Sclerosis Using Unsupervised Machine Learning

Jason Uwaeze, Ponnada Narayana, Arash Kamali, Vladimir Braverman, Michael Jacobs, Alireza Akhbardeh [Paper][Code]