

OGHENYOMA AKONI

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EDUCATION

University of Southern California

Los Angeles, CA

M.S in Computer Science- Artificial Intelligence

December 2025

The University of Texas at Dallas

Dallas, TX

B.Sc in Software Engineering

May 2022

TECHNICAL SKILLS

Programming Languages: C, C++, Python, JAVA and Java Frameworks, R, SQL

Applications/ Packages: Jira, Power Apps, Azure, MS Excel, Tableau, MS Office, Maya, UNITY, Arduino, MS Projects, MS Excel, PHP, MySQL, Kusto query language (KQL), Fiddler

Certifications: Professional Scrum Master I, CAPM

EXPERIENCE

The University of Southern California

Los Angeles, CA

Role: Research Assistant

Lab: Allegro Lab

January 2024- Date

- Research social media recommendation algorithms, focusing on ethical AI deployment.
- Conduct in-depth analyses of existing and proposed AI legislation across 30+ jurisdictions to assess its effectiveness in addressing key societal concerns such as algorithmic bias, transparency, and accountability
- Research nuanced approaches to AI recommendation systems for vulnerable communities, prioritizing inclusivity over binary opt-out options.

Lab: CELDtech - CRITmetic Project

May 2024- Date

- CRITmetic is a digital literacy platform that educates users on critical race digital literacy skills like recognizing algorithmic bias in software.
- Conduct in-depth analysis of over 40 curricula to design and develop the AI education component of the CRITmetic platform.
- Conduct product testing with various user groups to collect feedback for platform enhancements.

Lab: Humanistic and Social Scientific Approaches to Human Security Systems (HSS+HSS)

May 2024 - Date

- Investigating the relationship between cybersecurity attacks on critical infrastructure and public health outcomes.
- Quantifying the impact of cybersecurity attacks on healthcare by analyzing 50+ medical devices on their interconnectedness, data sensitivity, and life criticality factors and performing data analysis to measure cybersecurity risk.
- Processed and analyzed cross-sector data to develop predictive models, risk assessments, and interactive visualizations to effectively communicate insights.

Guest 365 Inc

Dallas, TX

Software Engineer

May 2023 - December 2023

- Designed and deployed custom RESTful APIs to streamline business automation processes and guest check-in.
- Integrated the Smoobu REST API to analyze booking revenue and taxation across 5+ booking platforms.
- Automated booking and guest check-in processes across internal software, improving efficiency by 50%.
- Performed routine updates on the company's booking site to enhance functionality and optimize user experience.

Microsoft

Fargo, ND

Support Engineer - Dynamics Clients pod

August 2022-March 2023

- Developed solutions, resolved issues, and met customer needs by utilizing log analysis and propriety tools
- Documented technical work and case research to enhance the knowledge base and aid the team in resolving similar issues
- Facilitated cross-team collaboration by leveraging resources and expertise to address customer's technical issues
- Conducted software defect identification by troubleshooting and replicating customer issues within a virtual environment, resolving 95% of reported cases.

UTDesign EPICS: Sci-Tech Museum

Dallas, TX

Project Manager - Inattentive Blindness Project

August 2019-December 2019

- Oversaw monthly stakeholder presentations for a team and provided updates on project progress, challenges, and resolutions. Efficiently managed Project budgets and allocated project resources
- Devised a 5-month Project schedule and delivered fast-tracked project deliverables resulting in an early conclusion by a month
- Oversaw product testing on a test group with a 70% success rate.

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RESEARCH CONTRIBUTIONS

Examining Speaker Bias in LLM Based on Prompts in African American Vernacular English vs. Standard American English - ([Research paper](#)) ([Github- codebase](#))

- Explored covert bias in LLMs using ChatGPT-4o Mini, Gemini 1.5, and Llama 3.2 as case studies
- Investigated covert bias in these models by analyzing numerical values assigned to speaker characteristics (Intelligence, kindness, sophistication, aggression, emotional, laziness, factual) through direct and indirect comparison of African American Vernacular English (AAVE) and Standard American English (SAE) prompts
- Conducted counterfactual fine-tuning on Llama 3.2 to evaluate the persistence of biases in fine-tuned language model.

Fine-Tuning Multimodal Foundation Models for Dementia Diagnosis - ([Research Paper](#))

- Evaluated foundation models for dementia classification, focusing on performance and resource efficiency compared to specialized models.
- Fine-tuned the LLaVA model with MRI data and benchmarked its performance against the baseline model - EfficientNet
- Determined the minimum training data required for the LLaVA model to achieve results comparable to the full dataset and baseline model.
- Validated model robustness and generalizability using unseen datasets (ADNI) and cross-evaluations between OASIS and ADNI datasets.

PROJECTS

Housing Price Prediction Neural Network

May 2024

- Designed and implemented a multi-layer perceptron neural network from scratch to solve a classification task predicting housing prices in the New York market.
- Utilized computations, including ReLU activation, mini-batch stochastic gradient descent, backpropagation, and gradient checking for accurate label prediction.
- Trained the model across ten different train/test splits with 1,500 data points each, achieving 80% accuracy.

Othello Game playing AI Agent

March 2024

- The Othello agent uses Alpha-beta pruning and the minimax algorithm for optimal move selection.
- Implemented heuristics, including stability, mobility, corner capturing, and disk difference, to enhance decision-making.
- Achieved accurate and timely victories within a 300-second limit.

Movie Recommendation Systems with LLM and Cosine Similarity

Feb 2024

- Designed two movie recommendation systems: one utilizing a large language model (LLM) and one without to compare performance.
- The first recommendation system uses LLaMA 2 which embeds movies from the Netflix Kaggle dataset into high-dimensional vectors.
- The second recommendation system is a content-based system that uses cosine similarity and bag-of-words to generate vectors. It extracts tags for accurate movie recommendations based on similarities in description, genre, and other features.
- Input like movie name or movie description can be put into both systems and the top 5 similar movies are recommended

WORLDWIDE COVID-19 VACCINE TRACKER (Tableau visualization)

March 2023

- The Dashboard shows the worldwide performance of vaccination programs making use of a bar chart, map and graphs
- Bar charts displays the amount of population partly or fully vaccinated according to location
- Scatter plot graph displays correlation between GDP per capita of a country and vaccinated people per hundred
- The maps display the number of people vaccinated per hundred in a location. Filters such as start and end date, country and continent can be applied to data to produce more specific results [Project Link](#)