

Will Maberry

 will-maberry |  willmaberry.com

EDUCATION

The University of Texas at Arlington (UTA)
B.S. in Computer Science Aug. 2022 – May 2026
Fundamentals of AI Certificate
GPA: 3.8+ (5× Honor Roll)

TECHNICAL SKILLS

Programming Languages

Python C Java JavaScript Elm

Machine Learning & Data Science

TensorFlow PyTorch NumPy Pandas

Scikit-learn Imb-learn Optuna SHAP

Geospatial & Visualization

GeoPandas GEE Leaflet Folium Matplotlib

Backend & Databases

FastAPI Flask Pydantic SQLite MySQL

Web & UI

LaTeX HTML CSS Markdown

DevOps & Deployment

Docker GitHub Actions Heroku Koyeb

PROJECTS

American Sign Language (ASL) Translator *AI for Good*

- Curated an ASL dataset of over **2,000 labeled gesture samples** using OpenCV and MediaPipe.
- Trained a neural network, achieving **90%+ accuracy** for reliable real-time ASL translation.
- Integrated multithreading for simultaneous video capture, model inference, and text-to-speech.

Algorithm Learning Platform

STEM Education

- Built an interactive web platform visualizing **20+ algorithms and data structures** (sorting, graphs, heaps, trees, etc.).
- Adopted by UTA Computer Science faculty, supporting **120+ students per semester** in lectures and self-paced study material.

Neural Network Walkthrough

AI & STEM Education

- Implemented a feedforward neural network from scratch on the MNIST handwritten digits dataset, achieving **95%+ accuracy**.
- Created a **beginner-friendly** walkthrough with detailed visualizations of training progress, back-propagation, loss curves, and weight updates.

LEADERSHIP

Association for Computing Machinery (ACM)
Education Director

HackUTA 7 (2025)
Experience Officer

The Wesley @ UTA Board of Directors
Student Representative & Lead Team Member

EXPERIENCE

USDA ARS — Disease Researcher Jul. 2025 – Present

- Advancing national HPAI outbreak modeling by developing a **public-facing early-warning system** that produces county-level forecasts one month ahead.
- Building an **end-to-end, multi-model forecasting pipeline** with weighted blending, threshold tuning, and strict temporal leakage prevention.
- Designing an **interactive geospatial dashboard** that translates complex ML forecasts into **actionable bio-surveillance insights** for producers and federal partners.
- Engineering **synthetic future-month features** using ridge-based climate interpolation.
- Performing **advanced diagnostics** including calibration curves, ternary confusion matrices, K-means/PCA clustering, and prevalence-bias assessments.

USDA ARS — Research Intern May 2025 – Jul. 2025

- Collaborated with **national program leaders** to support data-driven decisions in HPAI surveillance across the continental U.S.
- Developed **imbalanced-learning and gradient-boosting ensembles** for national-scale county-level forecasting.
- Achieved **80%+ balanced accuracy** on multi-year national classification data through feature engineering and threshold tuning.
- Conducted **feature-importance and explanatory analyses** to identify climatic, agricultural, and migratory predictors of HPAI outbreaks.

OpenAI — Engagement Manager Jul. 2024 – Present

- Lead engagement strategy for OpenAI's largest public community, connecting **800k+ global users**.
- Launched interactive initiatives and bi-monthly newsletters, generating a **120% increase in engagement**.

TEACHING & COMMUNITY

- UTA Operating Systems TA:** Taught and mentored 120 students; selected as the **second undergraduate TA in 14 years**.
- OpenAI Community Volunteer:** Supported global AI education initiatives and technical discussion (2022–2024).