

# 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+ (6× Honor Roll)*  
Maverick Academic Scholarship (\$8000/year)

## TECHNICAL SKILLS

- Forecasting & Modeling**  
Spatiotemporal leakage-safe forecasting; ensembling; rare-event modeling
- Machine Learning & Data Science**  
TensorFlow; PyTorch; Scikit-learn; Imb-learn; Optuna
- Geospatial Analysis**  
GeoPandas; GEE; Folium/Leaflet; raster processing
- Programming & Data**  
Python; C; Java; SQL; Bash; Pandas; NumPy
- Pipelines & Deployment**  
FastAPI; Flask; Docker; automated retraining pipelines
- Visualization**  
Matplotlib; interactive dashboards; risk mapping

## PROJECTS

- American Sign Language (ASL) Translator**  
• 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**  
• Built an interactive web platform visualizing **20+ algorithms and data structures** (sorting, graphs, heaps, trees, etc.).
- Adopted by UTA Computer Science faculty, supporting **50+ students per semester** in lectures and self-paced study material.
- Neural Network Walkthrough**  
• 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.
- Queen's Logic Puzzle**  
• Built and deployed a full-stack puzzle game with a bespoke board generation algorithm, ensuring unique solutions.

## EXPERIENCE

- USDA ARS — Disease Researcher** Jul. 2025 – Present
- Developing a national-scale HPAI outbreak **public-facing early-warning system** that produces county-level forecasts one month ahead.
  - Building an **end-to-end, spatiotemporal forecasting pipeline** with weighted model blending, threshold tuning, and strict temporal leakage checks.
  - Designing an **interactive geospatial dashboard** that translates ML forecasts into **biosurveillance insights** for non-technical audiences.
  - 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
- Achieved **75%+ balanced accuracy** on multi-year national classification data through feature engineering, Machine learning, and threshold tuning.
  - Developed **imbalanced-learning and gradient-boosting ensembles** for national-scale county-level pseudo-forecasting.
  - Collaborated with **national program leaders** to support data-driven decisions in HPAI surveillance across the continental U.S.
  - 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 **850k+ global users**.
  - Launched interactive initiatives and bi-monthly newsletters, generating a **120% increase in engagement**.

## TEACHING & COMMUNITY

- UTA Operating Systems TA:** Taught ~ 120 students; held multiple weekly office hours, covering multi-threading, scheduling, memory management, and more.
- OpenAI Community Volunteer:** Supported global AI education initiatives and technical discussions (2022–2024).

## LEADERSHIP

- Association for Computing Machinery (ACM)**  
Education Director
- HackUTA 7 (2025)**  
Experience Officer
- The Wesley @ UTA Board of Directors**  
Student Representative & Lead Team Member