CAEDON EWING

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EDUCATION

The University of Texas at Dallas Richardson, TX
BS in Computer Science Aug 2022 - May 2026
Relevant Coursework: Data Structures and Algorithms, Intro to Machine Learning, Adv. Algorithm Design

TECHNICAL PROJECTS

COMPUTER VISION MODEL OPTIMIZATION - Course Project May 2025

- Engineered and benchmarked 5 CNN architectures across 15 model variants on MNIST, Fashion-MNIST, and CIFAR-10 datasets, achieving 94%+ accuracy and improving baseline performance by 12-18% through systematic hyperparameter optimization
- Implemented a data pipeline with advanced augmentation, normalization, and train/validation/test splitting across 3 vision datasets (60K+ samples each)
- Created comprehensive evaluation suite with statistical analysis, confusion matrices, feature visualization (PCA/t-SNE), and , performance metrics (precision, recall, F1-score) using PyTorch and scikit-learn

WHIZZARD - Mobile Health Application - Axxess Hackathon 2024 Mobile Category First Place Feb 2024

- Developed responsive React components based on Figma prototypes, implementing industry-standard security protocols that enhanced user experience while maintaining HIPAA compliance.
- Assisted in developing image analysis algorithms using OpenCV and K-means clustering that achieved 95% accuracy in medical sample identification.
- Implemented a GPT-powered medical interface that processed patient queries.

WORK EXPERIENCE

CYBER SECURITY ANALYST - Christus Health Irving, TX
Internship May 2025 – Aug 2025

- Worked with production-scale distributed systems (Elastic Stack, enterprise SIEM platforms) to understand large-scale data processing and system integration patterns.
- Conducted in-depth research into security vulnerabilities (e.g., CSRF) and network technologies, applying analytical skills to understand complex system interactions and inform secure coding practices.
- Contributed to the analysis of an Elastic script for ransomware defense, gaining practical experience with scripting logic and data parsing within a distributed system.

PARKINSON'S DISEASE BEHAVIORAL DATA ANALYST - Neuroscience Research Lab Richardson, TX
Research Assistant Jun 2024 – Present

- Led a interdisciplinary group that developed unsupervised learning algorithms utilizing affinity propagation, resulting in complex mouse behavioral data clustering and a doubling of pattern recognition accuracy.
- Developed data cleaning pipeline for over 1M rows of raw data, reducing processing time by 50% and enabling precise mouse behavioral analysis
- Optimized MATLAB codebase for proprietary data processing, achieving 98% data collection and clustering accuracy that directly supported key research findings.
- Rapidly adapting to new MATLAB programming environments and complex neurological data processing requirements, while maintaining high accuracy standards.

TECHNICAL EXPERIENCE

- **Programming Languages:** Java, JavaScript, CSS, MATLAB, Python, C++
- **Development Tools:** Git, Figma, Google Cloud, React
- **ML Frameworks:** PyTorch, OpenCV