Michael Evans

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EDUCATION

Old Dominion University Norfolk, VA
M.S. in Electrical & Computer Engineering Anticipated May 2027
Thesis: *AI Framework for Disease-Agnostic Brain Glucose Hypometabolism Prediction*
B.S. in Computer Science May 2025

Tidewater Community College Norfolk, VA
A.S. in Computer Science May 2023

PUBLICATIONS

Refereed Papers

C2. M. L. Evans, M. Machado, R. Johnson, L. Escamilla, A. Vadella, B. Froemming-Aldanondo, T. Rastoskueva, M. Jostes, D. Butani, R. Kaddis, C. Chung, and J. Siegel. A Roadside Unit for Infrastructure Assisted Intersection Control of Autonomous Vehicles. *IEEE International Conference on Electro/Information Technology (EIT)* 2025.

C1. B. Froemming-Aldanondo, T. Rastoskueva, M. L. Evans, M. Machado, A. Vadella, L. Escamilla, R. Johnson, M. Jostes, D. Butani, R. Kaddis, C. Chung, and J. Siegel. Evaluating Low-Resource Lane Following Algorithms for Compute-Constrained Automated Vehicles. *IEEE International Conference on Artificial Intelligence, Robotics, and Control (AIRC)* 2025.

W1. M. L. Evans, D. Soós, E. Landers, and J. Wu. MSVEC: A Multidomain Testing Dataset for Scientific Claim Verification. *National Workshop for REU Research in Networking and Systems (REUNS @ ACM MobiHoc)* 2023.

Preprints

P1. M. A. Witherow, M. L. Evans, A. Temtam, H. R. Okhravi, and K. M. Iftekharuddin. Machine Learning-Enhanced Non-Amnestic Alzheimer's Disease Diagnosis From MRI and Clinical Features. *arXiv* 2026.

TALKS

A Roadside Unit for Infrastructure Assisted Intersection Control of Autonomous Vehicles
IEEE International Conference on Electro/Information Technology, Valparaiso University, 2025.

Robust Lane Following with V2X Traffic Management
Research Experience for Undergraduates, Lawrence Technological University, 2024.

The Potential of Large Language Models in Evaluating Scientific Claims
Undergraduate Research Symposium, ODU Digital Commons, 2024.

MSVEC: A Multidomain Testing Dataset for Scientific Claim Verification
The 8th National Workshop for REU Research in Networking and Systems, George Washington University, 2023.

Scientific News Verification With GPT
Research Experience for Undergraduates, Old Dominion University, 2023.

RESEARCH EXPERIENCE

Graduate Research Assistant Sept 2025-Present
Old Dominion University, advised by Dr. Khan Iftekharuddin
Vision Lab

- Developed a standardized, BIDS-compliant preprocessing pipeline for multimodal neuroimaging (sMRI, fMRI, FDG-PET) using MATLAB, fMRIPrep, and Clinica, ensuring reproducible research outcomes.

Undergraduate Research Assistant Sept 2024-Sept 2025
Old Dominion University, advised by Dr. Khan Iftekharuddin
Vision Lab

- Constructed a FreeSurfer pipeline on an HPC cluster to extract 100,000 volumetric features in parallel from 500 patient MRI scans, enabling training of a random forest model for Alzheimer's disease classification.
- Visualized an ROI-map on an anatomically average brain template to highlight brain regions with significant features ($\alpha = 0.05$) for Alzheimer's classification with volumetric group mean z-score color coding.
- Fine-tuned the VGG16 convolutional neural network (CNN) with PyTorch for facial recognition of 4 lab members in an autonomous surveillance robot capable of identifying, tracking, and following individuals.

NSF REU Intern - Developing Self-Drive Algorithms for Electric Vehicles May-July 2024
Lawrence Tech and Michigan State University, advised by Drs. Chan-Jin Chung and Josh Siegel
Computer Science & Artificial Intelligence Robotics Lab

- Designed an adaptive speed algorithm to reduce acceleration and braking in autonomous vehicles through intersections by up to 75.35%, minimizing fuel consumption and noise pollution.
- Implemented and analyzed DBSCAN and K-means machine learning self-drive algorithms for reliability.
- Built a simulation in GazelleSim for testing our autonomous intersection control in a controlled environment.

NSF REU Intern - Disinformation Detection and Analytics June-Aug 2023
Old Dominion University, advised by Dr. Jian Wu
Lab for Applied Machine Learning and Natural Language Processing Systems

- Engineered prompts and tuned hyperparameters with the OpenAI API for scientific claim verification.
- Increased the size of our project corpus by over 200% to improve benchmarking the effectiveness of the GPT-3.5-turbo model's ability to generalize across multiple scientific news domains.
- Calculated the precision, recall, and F1 score on zero-shot classification with the GPT-3.5-turbo model against our dataset on two sub-tasks: stance labeling and identifying sentence rationales.

SELECTED TECHNOLOGIES

Programming Languages
Python, R, Bash, C++, MATLAB

Libraries & Frameworks
PyTorch, OpenCV, SPM, FreeSurfer, NiBabel, Nilearn, Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn

AWARDS

NSF CISE REU Travel Grant – $1,200 May 2025
Research Profile Highlight – Old Dominion University College of Sciences Newsletter Nov 2024
College of Sciences Dean's List – Old Dominion University Dec 2023-May 2025
BIO, GEO, CISE and OCE REU Travel Grant – $1,200 Sept 2023
Academic Excellence Award – Tidewater Community College April 2020, Mar 2023

SERVICE & MEMBERSHIPS

Congressional App Challenge (CAC), *Vision Lab Exhibitor* Dec 2024
Intelligent Ground Vehicle Competition (IGVC), *Surveyor* Jun 2024
Institute of Electrical and Electronics Engineers (IEEE), *Student Member* Jun 2024-Present
Association for Computing Machinery (ACM) Group at ODU, *Member* Jan 2024-Present

ADDITIONAL EXPERIENCE

Junior Web Developer Dec 2021-June 2022
Hard to Find Party Supplies