Advay Vyas

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Employment History

Mar 2025 – · · · · **Undergraduate Research Assistant,** University of Texas at Austin.
Conducting flu forecasting research in the Meyers Lab under Dr. Dongah Kim. Using machine learning tools such as gradient boosting to predict disease outbreaks.

Jun 2025 – Aug 2025 **Undergraduate Research Assistant,** Emory University.
Worked on the Hybrid Regularization for Random Feature Models project under Dr. Drum in the Emory Computational Methods for Data Science REU. Utilized MATLAB to optimize random feature models for image classification.

Jun 2024 – Aug 2024 **Summer Finance Associate,** Spartan Fitness Holdings.
Worked with the financial team at Spartan Fitness Holdings to clean, process, and report on location acquisition data and accounting records for eighty Club Pilates franchises.

Mar 2023 – May 2024 **Undergraduate Research Assistant,** University of North Texas.
Conducted traffic research with Dr. Jianguo Liu in the UNT Mathematics Department. Reduced traffic irregularity by 31.3% using traffic models and algorithms.

Oct 2022 – May 2024 **Undergraduate Research Assistant,** University of North Texas.
Conducted computational neuroscience research using an AI-powered dynamic video game and an EEG under Dr. McMahan's Mixer Lab in the UNT Learning Technologies Department.

Education

2024 – 2027 **B.S., Statistics and Data Science & Mathematics** at the University of Texas at Austin.
GPA: 4.0/4.0.
Relevant coursework: Introduction to Data Science, Statistical Thinking, Elements of Software Design, Linear Algebra, Discrete Mathematics, Real Analysis I, Probability, Introduction to Stochastic Processes, Differential Equations.

Research Publications

Journal Articles

1. T. McMahan, C. V. Tangton, **A. Vyas**, C. Huang, and A. Yewoor, "Bridging the gap between perceived and actual personalities in real and virtual worlds through EEG analysis," *Annual Review of Cybertherapy And Telemedicine 2024*, p. 206, 2024.

Conference Proceedings

1. **A. Vyas**, E. Rebello, and J. Liu, "A Lagrangian approach to loss function optimization on traffic network regularity," in *2023 IEEE MIT Undergraduate Research Technology Conference (URTC)*, 2023, pp. 1–5. DOI: 10.1109/URTC60662.2023.10534993.

Skills

Languages Strong reading, writing, and speaking competencies for English.

Skills (continued)

Coding	R, Python, MATLAB, Java, C++, C#, HTML, CSS, Unity, Git
Misc.	Academic research and scientific writing.

Miscellaneous Experience

Awards and Achievements

- 2025 **Score of 3**, 85th William Lowell Putnam Mathematical Competition.
- 2024 **Summer Scholarship**, University of Texas at Austin, College of Natural Sciences Honors.
- **$2,500 National Merit Finalist Scholarship**, National Merit Scholarship Foundation.
- **Polymathic Scholar**, University of Texas at Austin.
- 2023 **Eagle Scout**, Boy Scouts of America.
- **Undergraduate Research Fellow**, University of North Texas.

Presentations and Talks

- 2025 **Hybrid Regularization for Random Feature Models**, Emory REU Poster Session.
- **Nowhere Differentiable, Everywhere Useful**, Directed Reading Program Spring Symposium.
- 2024 **Topology and Data in Biology**, Directed Reading Program Fall Symposium.
- **Infinity and Decisions**, Texas Academy of Mathematics and Science Rosecutting Ceremony.