

EXPERIENCE

- Emory University**
Undergraduate Research Assistant

June 2025 - Present
Atlanta, GA

 - Working on the Hybrid Regularization for Random Feature Models project under Dr. Drum and Dr. Nagy in the Emory Computational Methods for Data Science REU.
 - Utilizing MATLAB to optimize random feature models for image reconstruction.
- University of Texas at Austin**
Undergraduate Research Assistant

March 2025 - Present
Denton, TX

 - Conducting flu forecasting research in the Meyers Lab under Dr. Dongah Kim.
 - Using machine learning tools such as gradient boosting to predict disease outbreaks.
- Spartan Fitness Holdings**
Summer Finance Associate

June 2024 - August 2024
Dallas, TX

 - Worked with the financial team at Spartan Fitness Holdings to clean, process, and report on location acquisition data and accounting records for 80+ Club Pilates franchises.
- University of North Texas**
Undergraduate Research Assistant

March 2023 - May 2024
Denton, TX

 - Conducted traffic research with Dr. Jianguo Liu in the UNT Mathematics Department.
 - Reduced traffic irregularity by 31.3% using traffic models and algorithms to try to reduce the \$179 billion each year wasted on the effects of traffic jams.
- University of North Texas**
Undergraduate Research Assistant

October 2022 - May 2024
Denton, TX

 - Conducted computational neuroscience using an AI-powered dynamic video game and an EEG under Dr. McMahan's Mixer Lab in the UNT Learning Technologies Department.

EDUCATION

- University of Texas at Austin**
B.S. in Statistics and Data Science and B.S. in Mathematics

August 2024 - May 2027
Austin, TX

 - GPA: 4.0/4.0

EXTRACURRICULAR ACTIVITIES

- Math Club**
Member

August 2024 - Present
Austin, TX

 - Engaged in two Directed Reading Programs (topological data analysis and real analysis) and gave a talk at the Fall and Spring Directed Reading Program Symposiums.
 - Attended weekly practices for the Putnam Mathematical Competition, received a score of 3 as a freshman.


PUBLICATIONS


C=CONFERENCE, J=JOURNAL, P=PATENT, S=IN SUBMISSION, T=THESIS


- [C.1] Vyas, A., Rebello, E., & Liu, J. (2023). **A Lagrangian Approach to Loss Function Optimization on Traffic Network Regularity**. In 2023 IEEE MIT Undergraduate Research Technology Conference (URTC). IEEE. Cambridge, MA. DOI: 10.1109/urtc60662.2023.10534993.
- [J.1] McMahan, T., Tangton, C., Vyas, A., Huang, C., & Yewoor, A. (2024). **Bridging the Gap Between Perceived and Actual Personalities in Real and Virtual Worlds Through EEG Analysis**. *Annual Review of CyberTherapy and Telemedicine*, Vol. 22, pp. 206-212. ISSN: 1554-8716.

HONORS AND AWARDS

- \$2,500 National Merit Finalist Scholarship**
National Merit Scholarship Corporation

January 2024

- Eagle Scout**
Boy Scouts of America

August 2023

- UNT Undergraduate Research Fellow**
University of North Texas

March 2023

- UT Polymathic Scholar**
University of Texas at Austin

August 2024
