Anutam Srinivasan

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Education

Georgia Institute of Technology (Incoming) — Atlanta, GA
Ph.D. in Robotics, President's Fellowship Awardee — *Starting Aug. 2025*

Ohio State University — Columbus, OH
GPA 4.00/4.00, BS in Electrical & Computer Engineering; Theoretical Mathematics (double major) — *Aug. 2021 – Present*

Dublin Scioto High School — Dublin, OH
GPA 4.52 (Weighted), International Baccalaureate (IB) Diploma — *Aug. 2017 – May 2021*

Experience

Autonomy & Navigation Technology Center — May. 2023 – Present
ORISE Research Intern, Air Force Insitute of Technology (AFIT) — *Wright Patterson Air Force Base, OH*

Geomagnetic Diurnal Variation Prediction, *PI: Prof. A. Nielsen* — May 2023 - May 2024
- Developed novel algorithms to predict diurnal variations in the geomagnetic field to improve viability of Crustal Magnetic Anomaly Navigation – a complementary navigation method for GPS contested environments.
- Explored use of relevant machine learning models (kNN, Neural Nets) for this purpose.
- Designed a portable ground-station (hardware) for magnetic field data collection to integrate with above.

Aircraft Magnetic Noise Prediction, *PI: Prof. A. Nielsen* — June 2024 – Present
- Developing a Physics-Informed time-series Machine Learning model that can predict the magnetic noise produced from an aircraft so it can be removed from sensor readings.
- Converted ∼4400 raw avionics data features to a machine-learning friendly format.
- Leveraging Tolles-Lawson physics model as a basis for the model architecture.

CoSyNe Lab — Aug. 2023 – Present
Resarch Assistant — *Columbus, OH*

Stealthy Data (audio) Exfiltration on Powerlines via Phone Charging Leakage, *PI: Prof. K. Athreya*
- Designed methods to identify power leakage patterns when a charging phone is actively used.
- Extracted and reconstructed relevant multi-modal signals to demonstrate plausible attack scenarios.
- Building the evaluation environment to evaluate various attack scenarios and compare them to baselines.

Data Mining Research Lab — Nov. 2023 – Present
Resarch Assistant — *Columbus, OH*

Fairness Under Uncertainty for Graph Models, *PI: Dr. S. Parthasarathy*
- Utilizing Conformal Prediction (CP) – an uncertainty quantification method that produces confidence sets
- Proposed a key algorithm to directly leverage the CP framework and construct *fair* uncertainty sets.
- Demonstrated and explored the generality of the *fair* CP framework.
- Implemented various CP algorithms for a benchmarking study on Graph Conformal Prediction.

Teaching

Fundamentals of Engineering Honors Program — Aug. 2022 – Present
Undergraduate Teaching Assistant — *Columbus, OH*

ENGR 1281.01H - Fundamentals of Engineering Honors: Intro to Matlab & C — Fall 2022
- Laboratory TA: Assisted students in the lab portion of the course, and graded weekly lab reports.

ENGR 1282.02H - Fundamentals of Engineering Honors: Robot Project — Spring 2023
- Class TA: Helped students work through assignments and taught them programming, design, and communication strategies for their robot project, and graded class assignments.

ENGR 1281.01H - Fundamentals of Engineering Honors: Intro to Matlab & C — Fall 2023
- Office Hours TA: I helped students with their lab reports and graded assignments.

ENGR 1281.01H - Fundamentals of Engineering Honors: Intro to Matlab & C — Fall 2024
- Office Hours TA: I helped students with their class work and lab reports.

ENGR 1282.01H - Fundamentals of Engineering Honors: Robot Project — Spring 2025
- Office Hours TA: I helped students develop a robot to complete a sequence of tasks.

Projects

Fundamentals of Engineering Honors Robot Project — Spring 2022

- Designed a robot with a four-person team to autonomously complete a specified course.
- Utilized CAD and C++ to create our robot and implemented a PID controller to improve our performance.
- Received a design award for our robust construction.

Real Time Robotics Systems Final Project — Spring 2024

- Considered Multi-Agent path planning algorithms for constrained settings (E.g. warehouses).
- Performed literature review to identify and adapt existing path planning algorithms for our setting.
- Ran experiments, to identify pros and cons of methods (including tree and graph-based methods).

X-Ray Communication Capstone Project, Advised by Dr. C. Ball, ElectroScience Lab — Fall 2024 - Present

- Building a hardware-software testbed for X-Ray communications.
- Exploring techniques in visual communications systems to build a fast and reliable testbed.
- Learning about various communication and encoding protocols to minimize bit-error rate.

Publications and Presentations

Conference Paper. A. Vadlamani*, *A. Srinivasan**, P. Maneriker, A. Payani, S. Parthasarathy. "A Generic Framework for Conformal Fairness", *Thirteenth International Conference on Learning Representations* (2025). (*Equal Contribution).

Journal Paper. P. Maneriker*, A. Vadlamani*, *A. Srinivasan*, Y. He, A. Payani, S. Parthasarathy. "Conformal Prediction: A Theoretical Note and Benchmarking Transductive Node Classification in Graphs", *Transactions in Machine Learning Research*(2025).

Preprint. Y. He, P. Maneriker, *A. Srinivasan*, A. Vadlamani, S. Parthasarathy. "Enhancing Conformal Prediction in Graph Neural Networks via Graph Sparsification" arXiv preprint arXiv:2410.21618 (2024). (under review)

Conference Presentation. *A. Srinivasan*, A. Nielsen. "Temporal Anomaly Corrections for Magnetic Anomaly Navigation", Presented at Joint Navigational Conference, Kentucky, 2024.

Conference Presentation. A. Nielsen, L. Bergeron, *A. Srinivasan.* "Extended Geomagnetic Ground Reference Station Model and Noise Characterization", Presented as a poster at the American Geophysical Union Fall Conference, California 2023.

Invited Talks

Temporal Anomaly Corrections For Magnetic Anomaly Navigation — June 2024

- Invited to present our work on Magnetic Anomaly Navigation to the MagNav working group at the National Oceanic and Atmospheric Administration (NOAA).

Awards

Dean's List — Aug. 2021 – Present

Maximus Scholarship (Merit-Based Scholarship) — Aug. 2021 – May. 2025

Scholarship Award for Robot Design, by Aptiv — Aug. 2022 – Dec. 2022

Extracurriculars

Ohio State Tennis Club — Aug. 2021 – May. 2023

Code 4 Community (Project Lead: Aug 2023 – May 2024) — Aug. 2021 – May. 2024

Ohio State Squash Club (Treasurer: May 2024 – Present) — Aug. 2023 – Present

Courses & Skills

Relevant Coursework: Real-time Robotics, Intro to Machine Learning, Mathematical Stats and Probability, Computer Architecture, Intro to Real Analysis (1 and 2), Abstract Algebra (1 and 2*), Partial Differential Equations, Math Methods in Relativity Theory (Applied Differential Geometry), Intro to Electronics, Intro to Operating Systems, Intro to Wireless Communications*. * = In Progress

Skills: Python (Scikit Learn, PyTorch), MATLAB, Java, C, C++, Git/GitLab