Aditya Teja Vadlamani

vadlamani.12@osu.edu | adityavadlamani.github.io linkedin.com/in/adityatv | Columbus, OH

Research Interests

Graph Machine Learning, Network Science, Large-Scale Deep Learning, High-Performance Computing, Recommender Systems, Representation Learning, Generative AI, Conformal Prediction, Mathematics, Fairness in ML

Education

The Ohio State University **Columbus, OH**

PhD in Computer Science and Engineering Aug 2023 – Present
Advisor: Dr. Srinivasan Parthasarathy

M.S. in Computer Science and Engineering Jan 2022 – May 2023
Project: An Open-Source Implementation of MultiBiSage and Renewed Bearing
Advisor: Dr. Srinivasan Parthasarathy

B.S. in Computer Science and Engineering, Mathematics, *Magna Cum Laude* Aug 2018 – May 2022

Relevant Coursework: Machine Learning, Graph Theory, High-Performance Deep Learning, Network Science, Reinforcement Learning, Data Mining, Optimization, Probability Theory

Publications and Preprints

- Maneriker, P.*, **Vadlamani, A. T.***, Srinivasan, A., He, Y., Payani, A., Parthasarathy, S. *Conformal Prediction: A Theoretical Note and Benchmarking Transductive Node Classification in Graphs.* Transactions on Machine Learning Research (TMLR), May 2025
- **Vadlamani, A. T.***, Srinivasan, A.*, Maneriker, P., Payani, A., Parthasarathy, S. *A Generic Framework for Conformal Fairness*. The Thirteenth International Conference on Learning Representations (ICLR), April 2025.
- He, Y., Maneriker, P., Srinivasan, A., **Vadlamani, A. T.**, Parthasarathy, S. *Graph Sparsification for Enhanced Conformal Prediction in Graph Neural Networks*. **arXiv preprint**.
- Dias, V., Ferraz, S., **Vadlamani, A.**, Erfanian, M., Teixeira, C. H. C., Guedes, D., Meira Jr, W., Parthasarathy, S. *Graph Pattern Mining Paradigms: Consolidation and Renewed Bearing*. IEEE International Conference on High Performance Computing, Data, and Analytics **(HiPC)**, December 2023. Presenting Author. **Best Paper Nominee.**
- **Vadlamani, A. T.**, Rumreich, L., Phillips, A. *Exploration Activities for Just-in-Time Learning in a First-Year Engineering Robotics Design-Build Project*. Short Paper. Proceedings from the ASEE Annual Conference, June 2023

Under Review

- **Vadlamani, A. T.**, Salarian, S., Gurukar, S, Parthasarathy, S. *BLB-HGNN: Bag of Little Bootstraps for Training Heterogeneous GNNs.*

* Denotes shared first authorship.

Honors and Awards

- Recipient of the **University Fellowship** from the Graduate School of The Ohio State University. 2023-2024
- Best Paper Nominee at HiPC 2023 (top 6 out of 36 regular papers) December 2023

Research Experience

The Ohio State University **Columbus, OH**

Graduate Student Researcher Aug 2022 – Present

- Multiple projects in scalable graph ML & graph mining, conformal prediction, and fairness in ML.

MS Research Project Aug 2022 – May 2023

- Implemented a proprietary heterogeneous GNN using PyTorch and Ray to demonstrate reproducibility and investigated extensions through sampling and ensembling techniques.

Industry Experience

Google **Sunnyvale, CA**
PhD Software Development Engineer Intern May 2025 – Present

Cruise **Sunnyvale, CA**
PhD Software Development Engineer Intern May 2023 – Aug 2023

- Designed and implemented a prototype encoder model using PyTorch Lightning to detect invalid simulated scenarios of the autonomous vehicle, reducing the number of manual reviews and time for software releases by several days.

Amazon Web Services **Cupertino, CA**
Software Development Engineer Intern May 2022 – Aug 2022

- Prototyped a scalable AWS environment for functional network verification of routing policies.
- Implemented syntactic validation for the routing policy attributes datastore to prevent numeric and regex issues, eliminating unnecessary redeployments onto routers, which can take weeks to months.

Amazon **Virtual**
Software Development Engineer Intern May 2021 – Aug 2021

- Designed, built, and deployed a serverless full-stack single-page application, which engineers use to record ground truth information for the team's search service.

CAS **Columbus, OH**
Technology Intern May 2019 – Aug 2019

- Developed the front end for a full-stack account recovery application to enhance customer experience and reduce customer support call times by up to 15 minutes.

Teaching Experience

The Ohio State University **Columbus, OH**
Graduate Teaching Associate – Fundamentals of Engineering for Honors Jan 2022 – May 2023, Aug 2024 – Present

- Taught the laboratory and robot project components for the honors first-year engineering sequence.
- Led software development efforts, including developing program-wide web applications and communication software for Arduino, Raspberry Pi, and custom PCB components for automated scoring and aesthetic LEDs.
- Fostered teamwork and developed the obstacle course for the first-year robot project with a multidisciplinary group.

Projects

- **Online Store –** Developed a full-stack application using Vue.js and Express.js and hosted on AWS via Terraform. The application serves over 2,000 students and 100 instructional staff of the first-year engineering program at OSU.
- **Movie Recommendation Web App –** Built a movie recommendation app using Flask, React.js, and Elasticsearch.
- **The Legend of Zelda: Dungeon 1 –** Recreated the first dungeon of *The Legend of Zelda SNES* game using Visual C# and the Monogame game engine with a team of developers while following Agile practices.
- **Robot Design Project –** Designed, built, and coded an autonomous robot with a team of engineers to navigate a course and complete several tasks. Was awarded 2nd place for *Outstanding Achievement in Innovation*.

Skills

Programming Languages: Python (proficient), C++, Java, SQL, MATLAB, JavaScript
Machine Learning Frameworks: PyTorch, TensorFlow, NumPy, Pandas, scikit-learn
Graph ML Tools: DGL (Deep Graph Library), PyTorch Geometric, NetworkX
Big Data and Parallel Computing: Ray, Apache Spark, SLURM, CUDA
Cloud Platforms and DevOps: AWS, Google Cloud Platform, Terraform, Git
Software Development: Vue.js, React.js, Flask, Express.js