

Prannoy Namala

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Education

University of Maryland, Ph.D. in Mechanical Engineering Expected May 2026

- GPA: 3.8/10

- **Research Interests:** optimal control, multi-agents systems, reinforcement learning, differential game theory

University of Maryland, M.Eng. in Robotics

May 2022

- GPA: 3.7/10

- **Independent Study Project:** Improving HRI Capabilities for Serving Robots by Combining Visual and Aural Cues

Amrita Vishwa Vidyapeetham, B.Tech. in Mechanical Engineering

May 2020

- GPA: 8/10. Graduated with Distinction

- **Capstone Project:** Design for Additive Manufacturing: A Case Study on Lattice Structure FDM Printing (via student exchange program at Northern Illinois University)

Experience

Graduate Assistant, University of Maryland – College Park, MD

May 2021 – Present

- Previously appointed as Research Assistant (2021-2024); currently serving as Teaching Assistant (2024-Present) while continuing independent research.
- Investigate scalable models for decision-making in multi-robot teams.
- Develop and test machine learning models for metareasoning for multi-agent reach-avoid games.
- Research explainable and distributed control for multi-agent games.
- Mentored an undergraduate student on ML and EDA techniques, leading to a research paper.
- Presented research at **IROS 2023**, **ASME IDETC 2024** and **SPIE Defense + Commercial Sensing 2024**
- Designed algorithm selection strategies for perimeter games, which outperformed the baseline in 94% of the cases while being computationally efficient.

Robotics Intern, Kick Robotics LLC – College Park, MD

Jan 2022 – May 2022

- Benchmarked four different perception sensors for the warehouse robot to understand their optimal operating conditions.
- Contributed to designing and manufacturing a Warehouse Robot with off-the-shelf parts.
- Developed and performed field experiments for an autonomous surface vessel.

Publications

P. Namala and J. W. Herrmann, “To assign or not to assign: A metareasoning framework for efficient sub-game computation in multi-agent pursuit-evasion games,” **Accepted to IEEE Int. Symp. Multi-Robot and Multi-Agent Systems (MRS)**, 2025.

P. Namala and J. W. Herrmann, “Learning-based metareasoning for decision-making in multi-agent pursuit-evasion games,” in *Proc. SPIE*, vol. 13016, Orlando, FL, USA, Jun. 2024, Art. no. 130160X. doi: 10.1117/12.3016736.

P. Namala, A. Vaidya, and J. W. Herrmann, “Data driven metareasoning for defending a perimeter against cooperative intrusion,” in *Proc. ASME Int. Des. Eng. Tech. Conf. Comput. Inf. Eng. Conf. (IDETC/CIE)*, vol. 2B, 44th CIE Conf., Washington, DC, USA, Aug. 25–28, 2024, V02BT02A039. doi: 10.1117/12.3016736.

Skills

Programming: Python, PyTorch, PyTorch Geometric, TensorFlow, ROS/ROS2, C++

RL Libraries: Ray RLlib, Open AI Gymnasium, PettingZoo, TorchRL; StableBaselines3

Tools: Git, Docker/Singularity, Linux, MATLAB

Languages: English (Fluent), Telugu (Fluent), Hindi (Fluent)

Embedded Systems: Raspberry Pi, NVIDIA Jetson Nano, 2D LIDAR, Encoders, Onboard cameras; Experience with YOLO object detection and lidar-based navigation on mobile robots

Awards

Dean's Fellowship award from Department of Mechanical Engineering	Aug 2025
Pathway to Ph.D. award from Maryland Robotics Center	Jan 2022
Pathway to Internship award from Maryland Robotics Center	Jan 2022

Professional Service

Reviewed two research papers for the **ASME Journal of Autonomous Vehicles**.

Teaching and Mentorship

Teaching Assistant , University of Maryland	Fall 2024 - Present
Supported course delivery, graded assignments, and held office hours for junior-level Engineering students.	

Mentor , High School Research Student	Fall 2025 - Present
Guiding a high school student on reinforcement learning using multi-agent video game environments, focusing on baseline algorithm development and experimentation.	

Mentor , CS Freshman	Academic Year 2023
Mentored a first-year Computer Science student on introductory machine learning concepts which was applied to pursuit-evasion games.	