# Nadun Ranawaka Arachchige
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## EDUCATION

**Georgia Institute of Technology | Atlanta, GA**                                2024 -
Doctorate of Philosophy in Computer Science, GPA: 4.0/4.0
- Advisor: Prof. Danfei Xu
- Minor in Machine Learning

**Georgia Institute of Technology | Atlanta, GA**                                2022 – 2023
Master of Science in Computer Science, GPA: 4.0/4.0
- Specialization in Machine Learning

**Georgia Institute of Technology | Atlanta, GA**                                2017 –2021
Bachelor of Science in Computer Science, GPA 3.89/4.0
- Honors Program – Research Pathway
- Cooperative plan

## PUBLICATIONS/PRESENTATIONS

- **Arachchige, N. R.***, *Chen, Z.*, Jung, W., Shin, W. C., Bansal, R., Barroso, P., ... & Xu, D. (2025). SAIL: Faster-than-Demonstration Execution of Imitation Learning Policies. arXiv preprint arXiv:2506.11948 [Accepted to CoRL 2025].
- Jung, W.*, Mishra, U. A.*, **Arachchige, N. R.**, Chen, Y.*, Xu, D.*, & Kousik, S*. (2025). Joint Model-based Model-free Diffusion for Planning with Constraints. [Accepted to CoRL 2025]
- Saxena, V., Bronars, M.*, **Arachchige, N. R.***, Wang, K., Shin, W. C., Nasiriany, S., ... & Xu, D. (2025). What Matters in Learning from Large-Scale Datasets for Robot Manipulation. In *The Thirteenth International Conference on Learning Representations*.
- **Arachchige, N. R.** (2025). Automating agriculture and food processing through robot learning: Applications, challenges, and opportunities [Conference presentation]. *AI in Agriculture Conference*. https://youtu.be/tQ_dXXLqhiQ?si=-A28QZN2Sp8EABA6
- Jung, W., Anthony, D., Mishra, U. A., **Arachchige, N. R**., Bronars, M., Xu, D., & Kousik, S. (2024). RAIL: Reachability-Aided Imitation Learning for Safe Policy Execution. *arXiv preprint arXiv:2409.19190*.
- **Ranawaka Arachchige, N**., He, Y., Ahlin, K., Kemenova, O., Gombolay, M., and Usher, C. (2023). "A Virtual Reality Robot Teleoperation Interface for a High Throughput Processing Task." [preprint]
- Paleja, R., Ghuy, M., **Ranawaka, N**., Jensen, R., and Gombolay, M. (2021) "The Utility of Explainable AI in Ad Hoc Human-Machine Teaming". Part of Advances in Neural Information Processing Systems 34.
- **Ranawaka, N.**, Joffe, B., Usher, C. (2018) "Detecting Hazardous Material Spills from Satellite Images" poster presented at Georgia Tech Research Institute's Independent Research and Development (IRAD) extravaganza.

## RESEARCH AND INDUSTRY EXPERIENCE

**Georgia Tech Research Institute –** Intelligent Sustainable Technologies Division, Atlanta, GA
*Graduate Research Assistant*                          Jan 2022 – May 2023, May 2024 - Present
Robotics Engineer (Temp)                                   July 2023 – May 2024
- Working on making robot learning applicable to industry with a focus on efficiency, robustness and safety.
- Developed a novel virtual reality interface for remote teleoperation of a robotic system for poultry processing. *Patent application submitted for system.*
- Collaborated on and co-wrote research proposals generating over $200,000 in funding.

**Georgia Tech Research Institute -** Intelligent Sustainable Technologies Division, Atlanta, GA
*Software Developer Co-op*                                  May 2019 – May 2021
- Engaged in full-stack development of a pedestrian tracking software for the Georgia Department of Transportation using C++, python and SQL. **Project won GDOT award for research excellence.**
- Implemented ML models in Python using SciPy and Keras to detect hazardous material spills from satellite images.
- Developed analytical models to isolate chemical markers of health in plants using plant VOCs.

**Georgia Tech Cognitive Optimization and Relational (CORE) Robotics Lab –** Atlanta, GA
*Research Assistant*                                        Aug 2020 – Dec 2020
- Worked on a study that looked at the utility of explainable AI in human-robot teams and implemented decision making for a virtual agent in Microsoft's Project Malmo.
- Work resulted in a publication at NeurIPS 2021.

**Georgia Tech Vertically Integrated Program (Junior Design) –** Agricultural Robotics team, Atlanta, GA
*Team Member*                                              Aug 2019 – Dec 2020
- Was part of an interdisciplinary team under Dr. Ai-Ping Hu over 3 semesters that looked to create robotic solutions to facilitate on-field agricultural research.
- Developed computer vision and motion planning algorithms for a novel robot that brachiates (swings) on flexible supports.

## LEADERSHIP

Omicron Delta Kappa , Vice-President                        Jan 2021 – May 2021
- Leadership honor society at Georgia Tech comprised of executive officers from various Georgia Tech clubs and organizations.
- Led recruitment and membership activities. Helped induct 12 new members during the spring semester and recruited members from 3 underrepresented organizations.

Georgia Tech Wreck Camp, Director of Programming and Logistics          Oct 2019 – Oct 2020
- Extended orientation program for incoming Georgia Tech students that helps them build a support network and facilitates their transition to college.
- Created the schedule and scouted locations for a new on-campus camp.
- Helped create and execute a new, entirely virtual orientation program.

## MISC

**Programming Languages:** Python, C#, C++, MatLab
**Software/Technologies:** ROS, Unity, PyTorch, MuJoCo, Arduino, MySQL
**Reviewing:** HRI, ICRA, CoRL