

Mehul Damani

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Education

- Ph.D. Massachusetts Institute of Technology (MIT)** Aug 2022 – present
Ph.D. candidate in Computer Science
 • **Advisor:** [Jacob Andreas](#) ; **GPA:** 4.9/5.0
- B.Eng Nanyang Technological University (NTU)** Aug 2018 – May 2022
Bachelor's in Mechanical Engineering
 • **GPA:** 4.74/5.0 ; Honours (Highest Distinction)

Experience






- MIT-IBM Watson AI Lab** Cambridge, MA
Research Intern
 May 2025 – present
 • Reinforcement Learning for LLM tool use.
- New York University** Remote
Research Intern (Advised by [Lerrel Pinto](#))
 Jan 2021 – Aug 2022
 • Developed curriculum generation method that improved performance by upto 20% on robotic tasks.
- National University of Singapore** Singapore
Research Intern (Advised by [Guillaume Sartoretti](#))
 Apr 2020 – July 2022
 • Developed decentralized reinforcement learning (RL) methods for multi-agent systems.
 • Co-authored 4 papers, open-sourced code with 100+ stars on Github.
 • Achieved fourth position in the RL track of the NeurIPS 2020 Flatland Challenge.
- Satellite Research Centre (NTU)** Singapore
Research Intern
 Sept 2019 – Apr 2020
 • Developed regression models to characterize drift and bias of sensors for integration into ADCS of a satellite.
- Temasek Labs (NTU)** Singapore
Research Intern (Advised by Holden Li)
 May 2019 – Feb 2020
 • Launched a high-altitude balloon (HAB) in Malaysia, gathering climate data from the near-space region.

Publications

- [10] **Beyond Binary Rewards: Training LMs to Reason about their Uncertainty** 2025
Mehul Damani, Isha Puri, Stewart Slocum, Idan Shenfeld, Leshem Choshen, Yoon Kim, Jacob Andreas
COLM 2025 Workshop on Test-Time Scaling and Reasoning Models (Oral)
- [9] **The Surprising Effectiveness of Test-Time Training for Abstract Reasoning** 2025
 Ekin Akyurek, **Mehul Damani**, Linlu Qiu, Han Guo, Yoon Kim, Jacob Andreas
International Conference on Machine Learning (ICML)
- [8] **Learning How Hard to Think: Input-Adaptive Allocation of LM Computation** 2025
Mehul Damani, Idan Shenfeld, Andi Peng, Andreea Bobu, Jacob Andreas
International Conference on Learning Representations (ICLR)
- [7] **Open Problems and Fundamental Limitations of Reinforcement Learning from Human Feedback** 2023
 Stephen Casper, Xander Davies, Claudia Shi, Thomas Krendl Gilbert, Jérémy Scheurer, Javier Rando, Rachel Freedman, Tomasz Korbak, David Lindner, Pedro Freire, Tony Wang, Samuel Marks, Charbel-Raphaël Segerie, Micah Carroll, Andi Peng, Phillip Christofersen, **Mehul Damani**, Stewart Slocum, Usman Anwar, Anand Siththaranjan, Max Nadeau, Eric J Michaud, Jacob Pfau, Dmitrii Krashenninikov, Xin Chen, Lauro Langosco, Peter Hase, Erdem Biyik, Anca Dragan, David Krueger, Dorsa Sadigh, Dylan Hadfield-Menell

- [6] **Mitigating Generative Agent Social Dilemmas** 2023
Julian Yocum, Phillip Christoffersen, **Mehul Damani**, Justin Svegliato, Dylan Hadfield-Menell, Stuart Russell
NeurIPS 2023 Foundation Models for Decision Making Workshop
- [5] **Formal Contracts Mitigate Social Dilemmas in Multi-Agent RL** 2023
Andreas Haupt, Phillip Christoffersen, **Mehul Damani**, Dylan Hadfield-Menell
Autonomous Agents and Multi-Agent Systems
- [4] **SocialLight: Distributed Cooperation Learning towards Network-Wide Traffic Signal Control** 2023
Harsh Goel, Yifeng Zhang, **Mehul Damani**, Guillaume Sartoretti
International Conference on Autonomous Agents and Multiagent Systems
- [3] **Distributed Reinforcement Learning for Robot Teams: a Review** 2022
Yutong Wang, **Mehul Damani**, Pamela Wang, Yuhong Cao, Guillaume Sartoretti
Current Robotics Reports, Springer
- [2] **PRIMAL2: Pathfinding Via Reinforcement and Imitation Multi-Agent Learning - Lifelong** 2021
Mehul Damani, Zhiyao Luo, Emerson Wenzel, Guillaume Sartoretti
IEEE Robotics and Automation Letters
- [1] **Flatland Competition 2020: MAPF and MARL for Efficient Train Coordination on a Grid World** 2020
Florian Laurent, Manuel Schneider, Christian Scheller, Jeremy Watson, Jiaoyang Li, Zhe Chen, Yi Zheng, Shao-Hung Chan, Konstantin Makhnev, Oleg Svidchenko, Vladimir Egorov, Dmitry Ivanov, Aleksei Shpilman, Evgenija Spirovska, Oliver Tanevski, Aleksandar Nikov, Ramon Grunder, David Galevski, Jakov Mitrovski, Guillaume Sartoretti, Zhiyao Luo, **Mehul Damani**, Nilabha Bhat-tacharya, Shivam Agarwal, Adrian Egli, Erik Nygren, Sharada Mohanty
NeurIPS 2020 Competition and Demonstration Track

Projects

- Adversarial Vulnerabilities of CLIP** [Repo](#) 
• Generated interpretable, universal perturbations that caused misclassification of images by OpenAI's CLIP model.
- MA-Sort** [Repo](#) 
• Developed multi-agent RL benchmark to test emergence of dominance hierarchies in a group of RL agents.
- Vigilant Bot** [Project Page](#) 
• Developed RNN-based embedded device for detecting hand gestures and sending automated distress signals.
- Vertical Take-off & Landing Aircraft (VTOL)** [Blog](#) 
• Designed, assembled and tested an electric Vertical Take-off and Landing aircraft (VTOL) prototype.
- Optimal Debris Deorbiting System** [Report](#) 
• Conceptualized a method to deorbit space debris from low-earth orbit (LEO) using bidirectional ion thrusters.

Skills

Languages: Python, C, MATLAB

Maching Learning: TensorFlow, Torch, HuggingFace, Ray, WandB

Other: Conda, Docker, Git, Linux, Slurm

Honors and Awards

- Vicom Book Prize, *Top Scorer in Thermodynamics out of 500 students* 2019
- Dean's List, *Top 5% of cohort* 2019, 2020
- Kishore Vaigyanik Protsahan Yojana Fellowship, *Awarded by Department of Science and Technology, India* 2017

- National Talent Search Scholar, *Awarded by National Council on Educational Research, India* 2017
- Invited Tedx speaker on Black Holes and Time Travel 2017

Reviewing

- Transactions on Machine Learning Research (TMLR) 2025
- Conference on Neural Information Processing Systems (NeurIPS) 2022, 2024
- International Conference on Learning Representations (ICLR) 2023, 2025
- International Conference on Robotics and Automation (ICRA) 2021-2023
- International Conference on Intelligent Robots and Systems (IROS) 2023
- International Conference on Machine Learning (ICML) 2023, 2025
- Association for the Advancement of Artificial Intelligence (AAAI) 2022
- Robotics and Automation Letters (RA-L) 2022-2024

Teaching

- Teaching Assistant for 6.8300 (Advances in Computer Vision) 2024
- Peer Tutor for MA2007 (Thermodynamics) 2021
- Organized tutorial on Arduino-powered robotic cars for high-school students. 2020