Pranav Thakkar

Pranav Thakkar | pnt8@cornell.edu | +1-607-262-9787

Research Interests

Assistive dressing, Multimodal haptic perception, Safe human-robot interaction

Education

Cornell University — Ithaca, NY
Ph.D., Mechanical Engineering (GPA: 3.9/4) — Aug 2023-Present
Advisor: Prof. Tapomayukh Bhattacharjee

Indian Institute of Technology, Bombay — Mumbai, India
B.Tech. & M.Tech., Aerospace Engineering (GPA: 9.02/10 | Rank 2) — Jul 2015-Jun 2020
Advisors: Prof. Leena Vachhani & Prof. Hemendra Arya

Research Experience

EmPRISE Lab, Cornell University: Ph.D. student — Ithaca, NY
Creating a bimanual assistive robot system for long-horizon dressing with T-shirts; past work includes multimodal visuo-haptic perception from in-the-wild data. — Jan 2024–Present

Honda R&D Co. Ltd.: Research Engineer, Robot Vision — Wako, Japan
Worked on robust LiDAR-inertial mapping and global point cloud registration for autonomous ground vehicles in semi-structured environments — Dec 2020-Jun 2023

ARMS Laboratory, IIT Bombay: Graduate Student Researcher — Mumbai, India
Analyzed nonlinear observability and designed robust estimators for parameter estimation in bearing-only navigation — Aug 2018–Sep 2020

Aerospace Systems Lab, UT Arlington: Research Intern — Arlington, TX
Calibrated and modeled a rotating LiDAR and implemented an occupancy grid mapping module in ROS, for an autonomous ground vehicle — May 2018–Jul 2018

Awards

Cornell CIS Outstanding TA Award — Aug 2025
Cornell Graduate Fellowship — Aug 2023
IIT Bombay Undergraduate Research Award — May 2019
ICSE Governor's Gold Medal — Aug 2013
Pace Junior Science Scholarship — Jun 2013

Publications & Preprints

[1] **Pranav N. Thakkar**, Shubhangi Sinha, Karan Baijal, Yuhan (Anjelica) Bian, Leah Lackey, Ben Dodson, Heisen Kong, Jueun Kwon, Amber Li, Yifei Hu, alexios rekoutis alexios, Tom Silver, and Tapomayukh Bhattacharjee. "CLAMP: Crowdsourcing a LArge-scale in-the-wild haptic dataset with an open-source device for Multimodal robot Perception". In: *Proceedings of The 9th Conference on Robot Learning*. 2025, pp. 941–960.

[2] Rishabh Madan, Jiawei Lin, Mahika Goel, Amber Li, Angchen Xie, Xiaoyu Liang, Marcus Lee, Justin Guo, **Pranav N. Thakkar**, Rohan Banerjee, Jose Barreiros, Kate Tsui, Tom Silver, and Tapomayukh Bhattacharjee. "PrioriTouch: Adapting to User Contact Preferences for Whole-Arm

Physical Human-Robot Interaction". In: *Proceedings of The 9th Conference on Robot Learning*. 2025, pp. 1515–1530.

[3] Ziang Liu, Yuanchen Ju, Yu Da, Tom Silver, **Pranav N. Thakkar**, Jenna Li, Justin Guo, Katherine Dimitropoulou, and Tapomayukh Bhattacharjee. "GRACE: Generalizing Robot-Assisted Caregiving with User Functionality Embeddings". In: *2025 20th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*. IEEE. 2025, pp. 686–695.

[4] **Pranav N. Thakkar**, Prashant V. Patil, and Leena Vachhani. "Unobservable Spaces for Bearing-Only Localization". In: *2021 American Control Conference (ACC)*. 2021, pp. 92–97.

[5] **Pranav Thakkar** and Leena Vachhani. "Optimal Landmark Selection for Bearing-Only Navigation". In: *Proceedings of the Advances in Robotics 2019*. AIR 2019. Chennai, India: Association for Computing Machinery, 2019.

[6] Prashant V. Patil*, **Pranav Thakkar***, and Leena Vachhani. "State Estimation for Vision-based Localization under Uncertain Conditions". In: arXiv, 2019.

[7] Sanit Gupta, Sahil Shah, Sumit Chaturvedi, **Pranav Thakkar**, Parvinder Solanki, Soham Dibyachintan, Sandeepan Roy, M. B. Sushma, Adwait Godbole, Noufal Jaseem, Pradumn Kumar, Sucheta Ravikanti, Aritra Das, Giridhara R. Babu, Tarun Bhatnagar, Avijit Maji, Mithun K. Mitra, and Sai Vinjanampathy. "An India-specific Compartmental Model for Covid-19: Projections and Intervention Strategies by Incorporating Geographical, Infrastructural and Response Heterogeneity". In: arXiv, 2020.

[8] **Pranav Thakkar**. "Bearing-Only Localization in Uncertain Environments". MA thesis. Indian Institute of Technology, Bombay, 2020.

Coursework

Cornell University: Robot Manipulation, Computer Vision, Reinforcement Learning

Indian Institute of Technology, Bombay: Estimation & Identification, Differential Geometry, Nonlinear Control, Feedback Control, Aircraft Design

Professional Service

Served as reviewer for conferences: AAMAS, HRI, ICRA, CoRL, ACC, and journals: JIST.

References

Available on request.