# Joydeep Biswas

Computer Science Department, University of Texas at Austin, TX 78712, USA.
joydeepb@cs.utexas.edu, http://www.joydeepb.com

## Current Appointment

Associate Professor, Computer Science Department, University of Texas at Austin

Visiting Professor, Nvidia

## Education

| | | |
|---|---|---|
| 2014 | Ph.D. in Robotics | Carnegie Mellon University |
| 2010 | M.S. in Robotics | Carnegie Mellon University |
| 2008 | B.Tech. in Engineering Physics | Indian Institute of Technology, Bombay |

## Achievements and Awards

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|---|---|
| 2025 | Third Place, RoboCup 2025 Humanoid League (Adult Size), *UT Austin Villa* |
| 2025 | Best Paper Runner-up, RSS 2025 Workshop on Resilient Off-road Autonomous Robotics |
| 2024 | Best Paper Award, ACM CHI Conference on Human Factors in Computing Systems |
| 2024 | JP Morgan Faculty Research Award |
| 2022 | 1st Place, Benchmark Autonomous Robot Navigation (BARN) Challenge, ICRA 2022 |
| 2021 | NSF CAREER Award |
| 2019 | Student Best Poster Award, Northrop Grumman University Symposium |
| 2019 | IJCAI Early Career Spotlight |
| 2019 | Amazon Research Award |
| 2018 | JP Morgan AI Faculty Research Award |
| 2018 | Best Demo Award, AAMAS 2018 |
| 2018 | 5th place, RoboCup 2018 Small Size League, *UMass MinuteBots*, Faculty Team Leader |
| 2017 | Lower Bracket 1st place, RoboCup 2017 Small Size League, *UMass MinuteBots*, Faculty Team Leader |
| 2015 | Siebel Scholar, Class of 2015 |
| 2015 | 1st place, RoboCup 2015 Small Size League, *CMDragons*, Student Team Leader |
| 2014 | 2nd place, RoboCup 2014 Small Size League, *CMDragons*, Student Team Leader |
| 2013 | 2nd place, RoboCup 2013 Small Size League, *CMDragons*, Student Team Leader |
| 2010 | 2nd place, RoboCup 2010 Small Size League, *CMDragons*, Team Member |

## Employment History

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|---|---|---|
| 2023 - Present | Associate Professor | Computer Science Department, University of Texas at Austin, TX, USA |
| 2017 - 2023 | Technical Advisor | Consumer Robotics, Amazon Lab 126 |
| 2019 - 2023 | Assistant Professor | Computer Science Department, University of Texas at Austin, TX, USA |
| 2019 - 2025 | Adjunct Assistant Professor | College of Information and Computer Sciences, University of Massachusetts Amherst, MA, USA |
| 2015 - 2019 | Assistant Professor | College of Information and Computer Sciences, University of Massachusetts Amherst, MA, USA |
| 2015 | Post-Doctoral Fellow | Computer Science Department, Carnegie Mellon University, Pittsburgh, PA, USA |
| 2012 | Summer Intern | Google Research, Mountain View, CA, USA |
| 2010 | Summer Intern | Intel Research, Pittsburgh, PA, USA |

## Funding

### Federal Funding

**NIH Award "*Human-Centered Development of Guide-dog Robots* "**
Role: Co-PI.
PI: Donghyun Kim (UMass Amherst).
Co-PIs: Ivan Lee (UMass Amherst), Nicholas Giudice (University of Maine).
Period: October 2025 – September 2028.

**NSF Award "*Collaborative Research: SLES: No Bad Surprises: Aligning Agent and Human Norms via Specification Refinements*"**
Role: Co-PI.
PI: Sandhya Saisubramanian (Oregon State University).
Co-PIs: Houssam Abbas (Oregon State University), Shlomo Zilberstein (UMass Amherst).
Period: October 2024 – September 2028.

**Army Research Laboratories Award "*SARA Sprint 3: Long-Range Offroad Introspective Driving*"**
Role: PI.
Period: January 2024 – December 2027.

**NSF Award "*FMitF: Track I: Program Synthesis for Robot Learning from Demonstrations*"**
Role: Co-PI.
PI: Isil Dillig.
Period: October 2023 – September 2027.

**NSF Award "*GCR: Community-Embedded Robotics: Understanding Sociotechnical Interactions with Long-term Autonomous Deployments* "**
Role: Co-PI.
PI: Luis Sentis.

Co-PIs: Elliott Hauser, Justin Hart, Keri Stephens.
Period: October 2022 – September 2027.

**Army Research Laboratories Award "*Human-Guided Learning of Neuro-Symbolic Mission Execution Policies*"**
Role: PI.
Co-PI: Isil Dillig.
Period: September 2021 – January 2023.

**NSF Award "*NRT-AI: Convergent, Responsible, and Ethical Artificial Intelligence Training Experience for Roboticists*"**
Role: Co-PI.
PI: Junfeng Jiao.
Co-PIs: Luis Sentis, Justin Hart.
Period: September 2021 – August 2026.

**NSF Award "*CAREER: Robust Perception and Customization for Long-Term Autonomous Mobile Service Robots*"**
Role: PI.
Period: April 2021 – March 2026.

**NSF Award "*RI: Medium: Introspective Perception and Planning for Long-Term Autonomy*"**
Role: PI.
Co-PI: Shlomo Zilberstein (UMass)
Period: July 2020 – June 2023.

**NSF Award "*SHF: Small: Interactive Synthesis and Repair For Robot Programs*"**
Role: Co-PI.
PI: Arjun Guha (UMass)
Period: June 2020 – May 2023.

**DARPA Award "*Advancing Learning via Probabilistic Causal Analysis for Competency Awareness*"**
Role: Co-PI.
PI: Charles River Analytics Co-PI: David Jensen (UMass).
Period: October 2019 – September 2022.

**Army Futures Command Robotics Center of Excellence "*Persistent Fully Autonomous Multi-Robot Tactics in Complex Environments*"**
Role: Co-PI.
PI: Peter Stone Co-PIs: Luis Sentis, Justin Hart
Period: October 2019 – December 2022.

**NSF Award "*S&AS: FND: Reliable Semi-Autonomy with Diminishing Reliance on Humans*"**

Role: Co-PI.
PI: Shlomo Zilberstein (UMass)
Period: September 2017 – August 2020.

**DARPA Award "*Intelligent Model-Based Adaptation for Mobile Robotics*"**
Role: Co-PI.
PI: Jonathan Aldrich (CMU) Co-PIs: David Garlan (CMU), Manuela Veloso (CMU), Christian Kaestner (CMU), Claire Le Gouess (CMU).
Period: November 2015 – November 2019.

### Competitive Industry Awards

**Amazon Faculty Research Award, 2024**
Role: PI.
Collaborators: Roberto Martin-Martin
Period: September 2025 – August 2026.

**JP Morgan Faculty Research Award, 2023**
Role: PI.
Collaborators: Arjun Guha (Northeastern University)
Period: September 2023 – August 2024.

**Northrop Grumman Mission Systems' Research in Applications for Learning Machines (REALM) Consortium**
Role: Co-PI.
PI: Shaoshuai Mou (Purdue) Co-PIs: Daniel A. DeLaurentis (Purdue), Bing Liu (UIC)
Period: January 2019 – December 2021.

**JP Morgan AI Research Award, 2019**
Role: PI.
Period: September 2019 – August 2020.

**Amazon Research Award, 2018**
Role: PI.
Period: September 2019 – August 2020.

## Teaching Experience

**Instructor, CS 340I, Fall 2025: The Essentials of AI for Life and Society**
University-wide course, University of Texas at Austin

**Instructor, CS 393R, Fall 2020, Fall 2021, Spring 2024: Autonomous Robots**
Graduate course, University of Texas at Austin

**Instructor, CS 109, Fall 2023: The Essentials of AI for Life and Society**
University-wide course, University of Texas at Austin

**Instructor, CS 388U, Fall 2023: Planning, Search, and Reasoning Under Uncertainty**
Online MS course, University of Texas at Austin

**Instructor, CS 378H, Fall 2023: F1/10 Autonomous Driving – Honors**
Honors Undergraduate course, University of Texas at Austin

**Instructor, CS378/ME379M/ME397/ECE394J/ECE379K, Spring 2023: Connected Autonomous Electric Vehicles**
Undergraduate course, University of Texas at Austin

**Instructor, CS 393R, Spring 2023: Planning, Search, and Reasoning Under Uncertainty**
Graduate course, University of Texas at Austin

**Instructor, CS 378H, Spring 2022: F1/10 Autonomous Driving – Honors**
Honors Undergraduate course, University of Texas at Austin

**Instructor, CS 378F, Spring 2020, Spring 2021: F1/10 Autonomous Driving**
Undergraduate course, University of Texas at Austin

**Instructor, COMPSCI 220, Fall 2017, Fall 2018: Programming Methodology**
Undergraduate course, University of Massachusetts Amherst

**Instructor, COMPSCI 403, Fall 2016, Spring 2018 : Introduction To Robotics**
Undergraduate course, University of Massachusetts Amherst

**Instructor, COMPSCI 603, Spring 2016, Spring 2017, Spring 2019 : Robotics**
Graduate course, University of Massachusetts Amherst

**Instructor, COMPSCI 691BR, Spring 2017 : Building A Robot Soccer Team**
Graduate Seminar, University of Massachusetts Amherst

## Invited Talks

Reading the Dirt: Learning What Matters (and What Doesn't) for Off-Road Navigation
*Keynote talk, RSS 2025 Workshop on Resilient Off-road Autonomous Robotics, June 2025*

Robots Without Boundaries: Embracing the Unseen and Tackling Novel Tasks
*Amazon Consumer Robotics Symposium*, May 2025

Robots Without Boundaries: Embracing the Unseen and Tackling Novel Tasks
*Keynote talk, Texas Regional Robotics Symposium*, May 2025

Teaching Robots To "Get It Right"
*Invited talk, Oregon State University*, January 2025

Teaching Robots To "Get It Right"
*Keynote talk, The 37th International FLAIRS Conference*, May 2024

From Social- To Everything- Navigation
Workshop on Social Robot Navigation: Advances and Evaluation. IROS 2023, October 2023

Towards Context-Aware Robot Navigation
Workshop on Robotic Perception and Mapping: Frontier Vision & Learning Techniques: Advances and Evaluation. IROS 2023, October 2023

Deploying Autonomous Service Mobile Robots, And Keeping Them Autonomous
*University of Maryland*, October 2022

Deploying Autonomous Service Mobile Robots, And Keeping Them Autonomous
*Northeastern University*, October 2022

Deploying Autonomous Service Mobile Robots, And Keeping Them Autonomous
*Wellesley College*, October 2022

Deploying Autonomous Service Mobile Robots, And Keeping Them Autonomous
*Samsung AI Center, NYC*, June 2022

Self-Supervised and User-Supervised Adaptation of Autonomous Robots
*JP Morgan AI Research Center, NYC*, June 2022

Deploying Autonomous Service Mobile Robots, And Keeping Them Autonomous
*Stanford University / Robotics Seminar*, April 2022

Deploying Autonomous Service Mobile Robots, And Keeping Them Autonomous
*University of Southern California / CS Colloquium*, April 2022

Deploying Autonomous Service Mobile Robots, And Keeping Them Autonomous
*Brown University / BigAI Talk*, April 2022

Motion Control and Visual Representation Learning for High-Speed Off-Road Driving
*University of Pennsylvania / F1Tenth Invited Lecture*, April 2022

Particle Filters for Mobile Robot Localization
*Wellesley College*, February 2022

Deploying Autonomous Service Mobile Robots, And Keeping Them Autonomous
*Nvidia*, March 2021

Anticipating and Avoiding Failures Using Introspective Perception and Physics-Informed Program Synthesis
*MIT Embodied Intelligence Seminar*, February 2021

Building Robots For Long-Term Autonomy, And Keeping Them Autonomous
*Yale University*, April 2019

The Quest for "Always-On" Autonomous Mobile Robots
*IJCAI 2019 Early Career Spotlight Talk*, August 2019

Deploying Autonomous Service Mobile Robots, And Keeping Them Autonomous
*ICRA 2018 Workshop: Long-term Autonomy and Deployment of Intelligent Robots in the Real-world*, May

2018

Building Robots For Long-Term Autonomy, And Keeping Them Autonomous
*Carnegie Mellon University*,March 2018

Deploying Autonomous Service Mobile Robots, And Keeping Them Autonomous
*Amazon*, November 2017

Deploying Autonomous Service Mobile Robots, And Keeping Them Autonomous
*IROS 2017 Workshop: Assistance and Service Robotics in a Human Environment*, September 2017

Autonomous Mobile Robot Perception for Changing Environments
*ICRA 2016 Workshop: AI for Long-term Autonomy*, May 2016

Deploying Autonomous Service Mobile Robots, And Keeping Them Autonomous.
*University of New Hampshire Robotics Seminar Series*, March 2016

The Quest for Robust, Reliable, Autonomous Mobile Robots.
*Williams College Computer Science Department Colloquium*, November 2015

The Quest for Robust, Reliable, Autonomous Mobile Robots.
*Vecna Robotics*, September 2015

The Quest for Robust, Reliable, Autonomous Mobile Robots.
*University of Minnesota, Computer Science & Engineering*, April 2015

Vector Map-Based, Non-Markov Localization for Long-Term Deployment of Autonomous Mobile Robots
*Google X*, April 2015

The Quest for Robust, Reliable, Autonomous Mobile Robots.
*University of Massachusetts Amherst, School of Computer Science*, March 2015

The Quest for Robust, Reliable, Autonomous Mobile Robots.
*University of Massachusetts Amherst, School of Computer Science*, March 2015

## Panels

Panel Member, 2025 AAAI Presidential Panel on the Future of AI: `https://aaai.org/about-aaai/presidential-panel-on-the-future-of-ai-research/`

Panel Moderator, Ethics Aware Design of AI
*2020 Global Analytics Summit: Ethics in AI, Texas McCombs*, November 2020

Discussion Panel, Record of Robotics at CMU Part II, A Live Interview with Manuela Veloso.
*CMU Record of Robotics Series*, October 2020

Last Mile Autonomous Delivery Systems: A Live Webcast Demonstration, and Panel Discussion
*UT Good Systems Webinar*, September 2020

The Call for an Accelerated Autonomy – Robotics on the Frontlines of a Crisis
*Computing In Our New Normal: A UTCS Webinar*, May 2020

Panel Chair, Reasoning and Learning in Real-World Systems for Long-Term Autonomy
*AAAI 2018 Fall Symposium*, October 2018

# Professional Service

## Outreach Activities

- Science on Screen Series at Amherst Cinema, Amherst MA, 31 October 2018: Presented a introduction to "Christine" within the scientific context of actual self-driving cars. *The Radical Future of Self-Driving Cars*.
- SciTech Cafe, Northampton MA, 23 January 2017: Presented a scientific talk to a general public audience. *"Where am I?" and Other Fundamental Questions Robotcs Think Long and Hard to Answer*
- HolyokeCodes, Holyoke MA, 8–12 July 2019: Co-Organized with Arjun Guha, a week-long robotics workshop for high-school students with state-of-the-art soccer-playing robots that we used to compete with at RoboCup. We covered the basic robot sense-plan-act control cycle, computational geometry, and simple adversarial planning. Students implemented building blocks of increasingly complex robot behaviors, leading up to a robot soccer tournament.

## Significant Service Roles

- Local Chair, Conference on Robot Learning (CoRL): 2026
- Associate Program Chair, AAAI Conference on Artificial Intelligence (AAAI): 2026
- Senior Member Track Co-Chair, AAAI Conference on Artificial Intelligence (AAAI): 2025
- Associate Editor, The International Journal of Robotics Research: 2023 – present
- Robotics Area Chair, International Joint Conference on Artificial Intelligence (IJCAI): 2023
- Co-Organizer, Texas Regional Robotics Symposium: April 29, 2022
- Associate Editor, Elsevier Robotics and Autonomous Systems: 2019 – present
- RoboCup Federation Trustee: 2021 – Present
- Diversity and Inclusion Co-Chair, AAAI Conference on Artificial Intelligence (AAAI): 2022, 2023
- RoboCup Executive Committee, Small Size League: 2015 – 2021
- Robot Exhibitions Co-Chair, International Joint Conference on Artificial Intelligence (IJCAI): 2021
- RoboCup Symposium Co-Chair: 2020-2021
- Robotics Track Co-Chair, International Conference on Autonomous Agents and Multiagent Systems (AAMAS): 2019
- Associate Editor, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS): 2016

## Senior Program Committee

- AAAI Conference on Artificial Intelligence (AAAI): 2024
- AAAI Conference on Artificial Intelligence (AAAI): 2023
- International Joint Conference on Artificial Intelligence (IJCAI): 2022
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS): 2022
- AAAI Conference on Artificial Intelligence (AAAI): 2020
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS): 2021
- Autonomous Robots and Multirobot Systems Workshop (ARMS): 2016

## Program Committee / Reviewer

- Autonomous Robots and Multirobot Systems Workshop (ARMS): 2020
- AAAI Symposium on Educational Advances in Artificial Intelligence: 2021
- RoboCup Symposium: 2015, 2016, 2017, 2018, 2019
- AAAI Undergraduate Consortium: 2021
- IEEE/SICE International Symposium on System Integration (SII): 2019
- Robotics: Science and Systems (RSS): 2015, 2016, 2019
- International Symposium on Multi-Robot and Multi-Agent Systems (MRS): 2019
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS): 2017, 2018
- International Conference on Automated Planning and Scheduling (ICAPS) : 2016, 2018, 2021
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS): 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020
- IEEE International Conference on Robotics and Automation (ICRA): 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021
- IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN): 2010
- IEEE Conference on Human-Robot Interaction (HRI): 2016
- International Joint Conference on Artificial Intelligence (IJCAI): 2016
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS): 2016

## Journal Reviewing

- IEEE Robotics and Automation Letters (RA-L): 2017, 2018, 2019, 2020, 2021
- IEEE Robotics and Automation Magazine (IEEE-RAM): 2013, 2014, 2015, 2016, 2019
- IEEE Transactions on Robotics (T-RO): 2015, 2018, 2019, 2020
- International Journal of Robotics Research (IJRR): 2016, 2017
- International Journal of Social Robotics (SORO): 2018, 2019

### Grant Reviewing

NSF Panelist: 2016(x2), 2018, 2019, 2020, 2021, 2022

## University Service

### College Level

- Faculty Hiring Committee for Whole Communities Whole Health Cluster Hires: 2019–2020
- CNS Fall Lab Working Group in response to COVID restrictions: 2020

### Department Level

- Texas Robotics Machine Shop Committee: 2020–2022
- Texas Robotics Space Committee: 2020–2022
- UTCS Turing Scholars Admissions Committee: 2020–2022
- UTCS Diversity, Equity, and Inclusion Committee: 2020–2022
- UTCS Graduate Admissions Committee: 2019–2020
- UMass CICS Honors Program Director: 2018–2019
- UMass CICS Undergraduate Course Assistant Program Director: 2018–2019
- UMass CICS Graduate Admissions Committee: 2015–2016
- UMass CICS Student Activities Committee: 2015–2016
- UMass CICS Data Science Faculty Hiring Committee: 2016–2017
- UMass CICS Student Activities Committee: 2016–2017

## Advising and Thesis Committees

### PostDoctoral Supervisor

- Rohan Chandra, 2022 – present
- Kiarash Rahmani, 2022 – present

## PhD Supervisor

- Sarah Etter, UT Austin. 2023–present
- Dongmyeong Lee, UT Austin. 2023–present
- Cheng-Chun Hsu, UT Austin. 2023–present
- Arthur Zhang, UT Austin. 2022–present
- Zichao Hu, UT Austin. 2022–present
- Sadanand Modak, UT Austin. 2022–present
- Noah Patton (Co-advised by Isil Dillig), UT Austin. 2022–present
- Eric Hsiung (Co-advised by Swarat Chaudhuri), UT Austin. 2022–present
- Amanda Adkins, UT Austin. 2020–present
- Emily Pruc, UMass Amherst. 2018–2022
- Sadegh Rabiee, UT Austin. 2016–2022, currently at Amazon Lab126
  *Introspective Perception for Mobile Robots*
- Jarrett Holtz, UT Austin. 2015–2022, currently at Bosch Research
  *Leveraging Program Synthesis for Robust Long-Term Robot Autonomy via Interactive Learning and Adaptation*
- Samer Nashed (Changed advisors in 2019), UMass Amherst. 2015–2019
- Spencer Lane (Changed advisors in 2019), UMass Amherst. 2016–2019
- Alyxander Burns (Changed advisors in 2019), UMass Amherst. 2017–2019

## Master's Thesis Supervisor

- Kavan Sikand, UT Austin. 2019–2022
- David Balaban, UMass Amherst, 2016 – 2018
  *A Real-Time Solver For Time-Optimal Control Of Omnidirectional Robots with Bounded Acceleration*

## Undergraduate Honors Thesis Supervisor

- Elvin Yang, UT Austin. 2021–2022
  *Wait, That Feels Familiar: Learning to Extrapolate Human Preferences for Preference-Aligned Path Planning*
  **Best Honors Thesis Award**
- Rahul Menon, UT Austin. 2021–2022
  *Terrain-Adaptive Global Planning from Local Demonstrations*
- Shakeel Samsudeen, UT Austin. 2021–2022
  *Context-Aware Object SLAM*

- Nathaniel Plaxton, UT Austin. 2021–2022
  *Estimating Kinodynamic Uncertainty Using Learned Gaussian Noise Models*
- Michael Satanovski, UT Austin, 2021-2022
  *An Empirical Evaluation of LIDAR Object Detectors for Autonomous Mobile Robots*
- Edward Schneeweiss, UMass Amherst, 2015 – 2019
  *Joint Perception and Planning for Obstacle Avoidance over Non-Planar Terrain*
- Kyle Vedder, UMass Amherst, 2015 – 2019
  *X*: Anytime Multiagent Path Planning With Bounded Search*
- George Larionov, UMass Amherst, 2015 – 2016
  *Human-robot Interaction: Integrating Speech Recognition with a Mobile Robot System*

## PhD Committee Member

- Connor Basich, UMass Amherst. Supervisor: Shlomo Zilberstein
- Minkyu Kim, UT Austin. Supervisor: Luis Sentis
- Abhinav Verma, UT Austin. Supervisor: Swarat Chaudhuri
- Kyle Hollins Wray, UMass Amherst. Supervisor: Shlomo Zilberstein
- Justin Svegliato, UMass Amherst. Supervisor: Shlomo Zilberstein
- Tiffany Liu, UMass Amherst. Supervisor: Roderic Grupen
- Takeshi Takahashi, UMass Amherst. Supervisor: Roderic Grupen
- Mike Lanighan, UMass Amherst. Supervisor: Roderic Grupen
- Keen Sung, UMass Amherst. Supervisor: Brian Levine
- (Thesis Opponent) [1], Nils Bore, KTH. Supervisor: John Folkesson

## Undergraduate Honors Thesis Committee Member

- Stefan Kussmaul, UMass Amherst. Supervisor: Roderic Grupen
- Karl Schmeckpepper, UMass Amherst. Supervisor: Roderic Grupen

[1] A PhD thesis dissertation in the Swedish doctoral system is formally presented by an external examiner, called the *thesis opponent*. A thesis opponent places the work of the PhD thesis in context with the state of the art, presents the findings of the thesis, and leads a discussion with questions.

# Publications

## Conference Papers


[1] Abrar Anwar, John Welsh, Joydeep Biswas, Soha Pouya, and Yan Chang. "ReMEmbR: Building and Reasoning Over Long-Horizon Spatio-Temporal Memory for Robot Navigation." In: *2025 IEEE International Conference on Robotics and Automation (ICRA)*. 2025. URL: https://arxiv.org/pdf/2409.13682.

[2] Joydeep Biswas, Don Fussell, Peter Stone, Kristin Patterson, Kristen Procko, Lea Sabatini, and Zifan Xu. "The Essentials of AI for Life and Society: An AI Literacy Course for the University Community." In: *Educational Advances in Artificial Intelligence*. Vol. 39. 28. 2025, pp. 28973–28978. DOI: 10.1609/aaai.v39i28.35166. URL: https://joydeepb.com/Publications/eaai2025_essentials.pdf.

[3] Rohan Chandra, Haresh Karnan, Negar Mehr, Peter Stone, and Joydeep Biswas. "Multi-Agent Inverse Reinforcement Learning in Real World Unstructured Pedestrian Crowds." In: *Intelligent Robots and Systems (IROS), IEEE/RSJ International Conference on*. 2025. URL: https://joydeepb.com/Publications/iros2025_multi.pdf.

[4] Zichao Hu, Junyi Jessy Li, Arjun Guha, and Joydeep Biswas. "Robo-Instruct: Simulator-Augmented Instruction Alignment For Finetuning Code LLMs." In: *Conference on Language Modeling (CoLM)*. 2025.

[5] Zichao Hu, Chen Tang, Michael Joseph Munje, Yifeng Zhu, Alex Liu, Shuijing Liu, Garrett Warnell, Peter Stone, and Joydeep Biswas. "ComposableNav: Instruction-Following Navigation in Dynamic Environments via Composable Diffusion." In: *Conference on Robot Learning (CoRL)*. 2025.

[6] Wei Liu, Huihua Zhao, Chenran Li, Joydeep Biswas, Billy Okal, Pulkit Goyal, Soha Pouya, and Yan Chang. "X-Mobility: End-To-End Generalizable Navigation via World Modeling." In: *2025 IEEE International Conference on Robotics and Automation (ICRA)*. 2025. URL: https://arxiv.org/pdf/2410.17491.

[7] Sadanand Modak, Noah Tobias Patton, Isil Dillig, and Joydeep Biswas. "SYNAPSE: SYmbolic Neural-Aided Preference Synthesis Engine." In: *Proceedings of the AAAI Conference on Artificial Intelligence*. Vol. 39. 26. 2025, pp. 27529–27537. DOI: 10.1609/aaai.v39i26.34965. URL: https://joydeepb.com/Publications/aaai2025_synapse.pdf.

[8] Michael Joseph Munje, Chen Tang, Shuijing Liu, Zichao Hu, Yifeng Zhu, Jiaxun Cui, Garrett Warnell, Joydeep Biswas, and Peter Stone. "SocialNav-SUB: Benchmarking VLMs for Scene Understanding in Social Robot Navigation." In: *Conference on Robot Learning (CoRL)*. 2025.

[9] Arthur Zhang, Harshit Sikchi, Amy Zhang, and Joydeep Biswas. "CREStE: Scalable Mapless Navigation with Internet Scale Priors and Counterfactual Guidance." In: *Proceedings of Robotics: Science and Systems*. 2025. URL: https://joydeepb.com/Publications/rss2025_creste.pdf.

[10] Joydeep Biswas. "Teaching Robots to "Get It Right"." In: *Proceedings of the 37th International FLAIRS Conference*. 2024. DOI: 10.32473/flairs.37.1.135854. URL: https://joydeepb.com/Publications/flairs2024_teaching.pdf.

[11] Hochul Hwang, Hee-Tae Jung, Nicholas A Giudice, Joydeep Biswas, Sunghoon Ivan Lee, and Donghyun Kim. "Towards Robotic Companions: Understanding Handler-Guide Dog Interactions for Informed Guide Dog Robot Design." In: *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems*. New York, NY, USA: Association for Computing Machinery, 2024. ISBN: 9798400703300. DOI: 10.1145/3613904.3642181. URL: https://doi.org/10.1145/3613904.3642181.

[12] Haresh Karnan, Elvin Yang, Garrett Warnell, Joydeep Biswas, and Peter Stone. "Wait, That Feels Familiar: Learning to Extrapolate Human Preferences for Preference Aligned Path Planning." In: *2024 IEEE International Conference on Robotics and Automation (ICRA)*. 2024. DOI: 10.1109/ICRA57147.2024.10611475. URL: https://joydeepb.com/Publications/icra2024_wait.pdf.

[13] Yung-Chi Kung, Arthur Zhang, Junmin Wang, and Joydeep Biswas. "Looking Inside Out: Anticipating Driver Intent from Videos." In: *2024 IEEE International Conference on Robotics and Automation (ICRA)*. 2024. DOI: 10.1109/ICRA57147.2024.10610257. URL: https://joydeepb.com/Publications/icra2024_looking.pdf.

[14] Amir Hossain Raj, Zichao Hu, Haresh Karnan, Rohan Chandra, Amirreza Payandeh, Luisa Mao, Peter Stone, Joydeep Biswas, and Xuesu Xiao. "Rethinking Social Robot Navigation: Leveraging the Best of Two Worlds." In: *2024 IEEE International Conference on Robotics and Automation (ICRA)*. 2024. DOI: 10.1109/ICRA57147.2024.10611710. URL: https://joydeepb.com/Publications/icra2024_rethinking.pdf.

[15] Elliott Hauser, Yao-Cheng Chan, Parth Chonkar, Geethika Hemkumar, Huihai Wang, Daksh Dua, Shikhar Gupta, Efren Mendoza Enriquez, Tiffany Kao, Justin Hart, Reuth Mirsky, Joydeep Biswas, Junfeng Jiao, and Peter Stone. ""What's That Robot Doing Here?": Perceptions Of Incidental Encounters With Autonomous Quadruped Robots." In: *Proceedings of the First International Symposium on Trustworthy Autonomous Systems*. TAS '23. Edinburgh, United Kingdom: Association for Computing Machinery, 2023. ISBN: 9798400707346. DOI: 10.1145/3597512.3599707. URL: https://joydeepb.com/Publications/tas2023incidental.pdf.

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