

ABHIJAT BISWAS

ajdroid.github.io

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Experience

Member of Technical Staff Nov '25 - present	Inworld AI Multimodal models team Post-training (RL) for the #1 TTS model
Founding AI Researcher Sept '24 - Nov '25	Clementine Technologies a16z Speedrun S'24 Building realtime AI voice-to-code agents to control game companions Carried out post training, distillation & built telemetry for in-game data collection Voice-to-code in < 1s

Education

Ph.D. Robotics 2024	Carnegie Mellon University Thesis: <i>Eye Gaze for Intelligent Driving</i> Area of study: Improving driving autonomy via multimodal driver models Advisor: Henny Admoni
M.S. Robotics 2019	Carnegie Mellon University Thesis: <i>Human Torso Pose Forecasting for the Real World</i> Area of study: Social Navigation Advisors: Aaron Steinfeld & Henny Admoni
B.Tech. ECE 2016	Indian Institute of Technology Guwahati Thesis: <i>Visual Social Event Discovery</i> Advisor: Prithwjit Guha

Publications

An asterisk (*) indicates co-first authorship —these authors contributed equally to the work

Journal Articles

- J3** Gupta, P., **Biswas, A.**, Admoni, H., and Held, D. (2024). Object importance estimation using counterfactual reasoning for intelligent driving. *IEEE Robotics and Automation Letters*
- J2** Francis, A., Pérez-d'Arpino, C., Li, C., Xia, F., Alahi, A., Alami, R., Bera, A., **Biswas, A.**, and others (2024). Principles and guidelines for evaluating social robot navigation algorithms. *ACM Transactions on Human-Robot Interaction (THRI)*
- J1** **Biswas, A.**, Wang, A., Silvera, G., Steinfeld, A., and Admoni, H. (2022). Socnavbench: A grounded simulation testing framework for evaluating social navigation. *ACM Transactions on Human-Robot Interaction (THRI)*, 11(3):1–24

Conference Papers

- C8 Biswas, A.**, Gupta, P., Khurana, S., Held, D., and Admoni, H. (2024). Modeling drivers' situational awareness from eye gaze for driving assistance. In *8th Annual Conference on Robot Learning*
- C7 Biswas, A.**, Pardhi, B. A., Chuck, C., Holtz, J., Niekum, S., Admoni, H., and Allievi, A. (2024). Gaze supervision for mitigating causal confusion in driving agents. In *Proceedings of the 23rd International Conference on Autonomous Agents and Multiagent Systems* (Also appeared at ARRH @CORL '22, best paper)
- C6 Wang, A.**, Sato, D., Corzo, Y., Simkin, S., **Biswas, A.**, and Steinfeld, A. (2024). Tbd pedestrian data collection: Towards rich, portable, and large-scale natural pedestrian data. *IEEE International Conference on Robotics and Automation (ICRA)*
- C5 Biswas, A.** and Admoni, H. (2023). Characterizing drivers' peripheral vision via the functional field of view for intelligent driving assistance. In *IEEE Intelligent Vehicles Symposium (Oral)* (5% acceptance) (Also appeared as an Oral at CogSci 2023)
- C4 Silvera***, G., **Biswas***, A., and Admoni, H. (2022). Dreyevr: Democratizing driving simulation in virtual reality for behavioural & interaction research. In *ACM/IEEE International Conference on Human-Robot Interaction (HRI)*
- C3 Newman***, B. A., **Biswas***, A., Ahuja, S., Girdhar, S., Kitani, K. K., and Admoni, H. (2020). Examining the effects of anticipatory robot assistance on human decision making. In *International Conference on Social Robotics*
- C2 Sarvadevabhatla, R. K.**, Dwivedi, I., **Biswas, A.**, and Manocha, S. (2017). Sketchparse: Towards rich descriptions for poorly drawn sketches using multi-task hierarchical deep networks. In *Proceedings of the 25th ACM international conference on Multimedia*
- C1 Shankar, T.**, **Biswas, A.**, and Arun, V. (2015). Development of an assistive stereo vision system. In *Proceedings of the international Convention on Rehabilitation Engineering & Assistive Technology*

Workshop Papers

- W2 Biswas, A.**, Gupta, P., Held, D., and Admoni, H. (2024). An interactive protocol to measure a driver's situational awareness. In *7th International Workshop on Virtual, Augmented, and Mixed-Reality for Human-Robot Interactions at HRI 2024*
- W1 Biswas, A.**, Admoni, H., and Steinfeld, A. (2018). Human torso pose forecasting in the real world. In *RSS Workshop: Multimodal Perception and Control*

Awards & Honors

Fellow, Cerebras Fellows Program	2025
Best Paper Award, CoRL 2022 Workshop on Aligning Robot Representations with Humans	2022
Link Foundation Fellowship in Modeling, Simulation, and Training (5 US PhDs annually)	2022

Skills

Programming	proficient in Python; experienced in C++ & C#; familiar with Rust
Software packages	PyTorch, Unreal Engine, ROS, Unity, Godot

Professional Activities

Service Roles

Workshop Organizer, <i>1st Annual Social Robot Navigation: Advances and Evaluation</i> @ IEEE International Conference on Robotics and Automation (ICRA)	2022
Workshop Organizer, <i>All Things Attention: Bridging Different Perspectives on Attention</i> @ Conference on Neural Information Processing Systems (NeurIPS)	2022
Reviewer, IEEE Intelligent Vehicles Symposium (IV)	2024
Reviewer, ACM/IEEE International Conference on Human-Robot Interaction (HRI)	2021-24
Reviewer, HRI Pioneers workshop	2024
Reviewer, IEEE International Conference on Robotics and Automation (ICRA)	2023-25
Reviewer, IEEE Robotics and Automation Letters (RA-L)	2023
Reviewer, IEEE Conference on Virtual Reality and 3D User Interfaces (VR)	2023
Reviewer, International Journal of Social Robotics	2022
Reviewer, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)	2022
CMU SCS Dean's PhD Advisory Committee	2020-21

Invited Talks

Ethical perspectives of AI through contemporary gaming (panel), Ethics in AI Series, CMU	July 2021
Ethical and critical perspectives on Computer Vision in Graduate CV (16-720), CMU	2020, 2021
Visual social event discovery, Visual Computing Research Seminar, Cardiff University	June 2016

Mentorship

Pranay Gupta, CMU PhD (<i>Publications: J3, C8, W2</i>)	2022-24
Shreeya Khurana, CMU undergrad/MSML (<i>Publications: C8, now @ Stripe</i>)	2023-24
Badal Arun Pardhi, CMU masters (<i>Publications: C7, now @ Apple</i>)	2022-23
Gustavo Silvera, CMU undergrad (<i>Publications: J1, C4, now @ Tesla</i>)	2020-23
Anastasiia Runova, CMU undergrad	2022-23

Teaching

16-720: Computer Vision (graduate) TA for Prof. Srinivasa Narsimhan, Carnegie Mellon University I planned and taught a broader impacts module to supplement this advanced graduate-level course, placing CV research in the broader societal context.	Fall 2020
16-867: Human-Robot Interaction (graduate) TA for Prof. Henny Admoni, Carnegie Mellon University	Spring 2019