Maria Teresa Parreira

PhD candidate in Information Science at Cornell University

mariateresaparreira.com | github.com/mteresaparreira | linkedin.com/in/mariateresaparreira/ | Maria Teresa Parreira

I investigate how humans and AI systems communicate and repair interaction breakdowns, combining multimodal machine learning with human-in-the-loop methods to improve social competence in human-AI interaction.

Selected Publications

Full List Available Here

- *(to appear, ICMI '26)* Parreira, M. T., Spitale, M., Stiber, M., Cao, S., Mahmood, A., Huang, C.-M., Gunes, H., & Ju, W. (2026). ERR@HRI 3.0 Challenge: Multimodal Detection of Errors and Anticipation in Human-Robot Interactions.ArXiv. abs/2607.11570
- Parreira, M. T., Quan, H., Ramirez-Aristizabal, A. G., & Ju, W. (2026). Bad Idea or Good Prediction? Comparing VLM and Human Anticipatory Judgment. Companion Proceedings of the 21st ACM/IEEE International Conference on Human-Robot Interaction, 933–937. doi:10.1145/3776734.3794531
- Parreira, M. T., Zhang, R., Lingaraju, S. G., Bremers, A., Fang, X., Ramirez-Aristizabal, A., Saha, M., Kuniavsky, M., Zhang, C., & Ju, W. (2025). "Why the face?": Exploring Robot Error Detection Using Instrumented Bystander Reactions. ArXiv. abs/2512.00262
- Franchi, M., Parreira, M. T., Bu, F., & Ju, W. (2025). *The Robotability Score: Enabling Harmonious Robot Navigation on Urban Streets*. In Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI '25) (Article 737, pp. 1-17). Association for Computing Machinery. doi:10.1145/3706598.3714009
- Parreira, M. T., Lingaraju, S. G., Ramirez-Aristizabal, A., Bremers, A., Saha, M., Kuniavsky, M., & Ju, W. (2024). *"Bad Idea, Right?" Exploring Anticipatory Human Reactions for Outcome Prediction in HRI*. In Proceedings of the 2024 IEEE RO-MAN. IEEE doi:RO-MAN60168.2024.10731310
- Parreira, M. T., Lingaraju, S. G., Ramirez-Aristizabal, A., Saha, M., Kuniavsky, M., & Ju, W. (2024). *A Study on Domain Generalization for Failure Detection through Human Reactions in HRI*. arXiv preprint arXiv:2403.06315.
- Parreira, M. T., Sack, M. J. & Jung, M. (2023). *What predicts interpersonal affect? Preliminary analyses from retrospective evaluations*. In Proceedings of the 2023 IEEE RO-MAN. IEEE
- Parreira, M. T., Gillet, S., Winkle, K. & Leite, I. 2023. *How Did We Miss This? A Case Study on Unintended Biases in Robot Social Behavior*. In Companion of the 2023 ACM/IEEE International Conference on Human-Robot Interaction (HRI '23 Companion). doi:3568294.3580032
- Bremers, A., Parreira, A., Fang, X., Friedman, N., Ramirez-Aristizabal, A., Pabst, A., Spasojevic, M., Kuniavsky, M., & Ju, W. 2023. *"The Bystander Affect Detection (BAD) Dataset for Failure Detection in HRI."* 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Detroit, MI, USA, 2023, pp. 11443-11450, doi: 10.1109/IROS55552.2023.10342442
- Gillet, S., Parreira, M. T., Vázquez, M. & Leite, I. 2022. *Learning Gaze Behaviors for Balancing Participation in Group Human-Robot Interactions*. In Proceedings of the 2022 ACM/IEEE International Conference on Human-Robot Interaction (HRI '22). IEEE Press, 265–274. doi: 10.5555/3523760.3523798

Education

Cornell University — *New York City, NY, USA*

PhD in Information Science (with minor in Computer Science) — *Aug 2022 - Current*

- Advisors: Prof. Wendy Ju, Prof. Malte Jung
- Human-robot interaction, Deep Learning, Affective Computing

Instituto Superior Técnico (IST) — *Lisboa, PT*

Integrated MSc's in Biomedical Engineering — *Sept 2015 - Jan 2021*

- Graduated *Magna cum laude* (19/20)
- MSc's Thesis *"Describing monolayer mechanoresponse from nuclear morphology and dynamics: a computational approach"*, Supervisors: Prof. João Sanches (IST) and Prof. Kris Dahl (CMU, USA). Graded 20/20, IEEE's Outstanding MSc's Thesis Award 2021
- Member of the Student Counsil and Student's Delegate (2015-2020)

Tsinghua University — *Beijing, CH*

Exchange Program — *Sept 2018 - Feb 2019*

- Computer Science Department
- IST Mobility Ambassador

Work Experience

Google Deepmind — *New York, USA*

PhD Student Researcher — *May 2026 - Aug 2026*

- Affective Computing team. Framework for evaluation of interaction friction and agentic adaptation in user-agent interactions.

Google Deepmind — *New York, USA*

PhD Student Researcher — *June 2025 - Aug 2025*

- Affective Computing team. Large-scale multi-agent simulation for conversational repair.

KTH Royal Institute of Technology *Stockholm, Sweden*

Research Engineer *June 2021 - July 2022*

- Division of Robotics, Perception and Learning. Supervised by Prof. Iolanda Leite
- Offline reinforcement learning for robot social behavior.
- Affective computing and frustration detection through thermal imaging.
- Deep Learning for listener behavior generation.
- Gender-biased AI.

Institute for Systems and Robotics *Lisbon, PT*

Research Intern *Oct 2019 - Apr 2020*

- Supervised by Profs. João Sanches (IST Lisboa) and Kris Dahl (CMU, USA)
- Computational approach to analysis of microscopy images.
- Cell mechanobiology.
- Development of computational image processing tools which are in use today.

Institute for Systems and Robotics *Lisbon, PT*

Research Intern *Jan 2017 - June 2017*

- Supervised by Prof. Plínio Moreno (IST Lisboa)
- Computing different grasping motions in Vizzy robot.

Achievements

2025	**NVIDIA Academic Grant,** NVIDIA	*NY, USA*
2025	**HRI Pioneers, Honorary Mention,** HRI 2025	*Melbourne, Australia*
2022	**Outstanding MSc Thesis Award,** IEEE Portugal	*Portugal*
2021	**Maria de Lourdes Pintassilgo for best alumna,** IST, Lisboa	*Portugal*
2015-2020	**Academic Merit or Excellence,** IST, Lisboa	*Portugal*

Community Involvement and Other Projects

Teaching

- **Fall 2025** - Applied Machine Learning
- **Spring 2025** - Tech, Media and Democracy
- **Spring 2024** - ”Remaking the City”
- **Fall 2023** - Interactive Device Design

Organizing Committees

- **Mar 2026** - Sustainability Chair, HRI 2026
- **June 2025** - ERR@HRI 2.0, MM 2025
- **July 2025** - Models of Human Feedback for AI Alignment, ICML 2025
- **Mar 2025** - HRI-4-Sustainability, Sustainability-4-HRI workshop, HRI 2025
- **Nov 2024** - ERR@HRI Challenge at ICMI 2024
- **Jan/2023-Jan/2026** - Member of committee of PACT (PhDs At Cornell Tech)
- **2023** - Lead organizer for IS Retreat at Cornell University

Reviews

- **2025** - CHI
- **2025** - IROS
- **2022-2025** - ACM/IEEE International Conference on Human-Robot Interaction (HRI)
- **2024-2025** - Transactions on Human-Robot Interaction
- **2024** - ACM Designing Interactive Systems
- **2023** - Cognitive Systems Research
- **2022-2025** - International Journal of Social Robotics

Press

- **Nov 2021** - Maria de Lourdes Pintassilgo award ceremony
- **Jun 2021** - Article about paper ”A single stiffened nucleus alters cell dynamics and coherence in a monolayer”
- **Jun 2021** - Article about paper ”A single stiffened nucleus alters cell dynamics and coherence in a monolayer”

Skills

Programming	Python (Keras, PyTorch, Scikit-learn), R, Matlab, Mathematica, HTML/CSS, Java
Machine Learning	Computer Vision, Linear ML, CNN, RNN, Reinforcement Learning, LLM, VLM, Perception, Robotics, Deep Learning, Biosensing
Soft Skills	Teamwork, Team and project management, Public speaking, Problem-solving.

Climate Finance *Online Course*
YOUNGO *Sept 2022*

Circular Economy *Online Course*
MOOC Técnico *May 2022*

Data Science, ML and AI for Business *Online Course*
IE Foundation *Nov 2021*

Neural Networks and Deep Learning *Online Course*
DeepLearning.AI *Feb 2021*

Advocacy

Youth Delegate *United Nations (NYC)*
Major Group Of Children and Youth *June 2023 - Now*

- Drafting and delivering interventions at General Sessions
- Participating on panel and moderating panel on SDG13
- Logistics for Youth Blast and Info sessions for other Youth. Full list of contributions here.

Climate Pact Ambassador *(Remote)*
European Commission *May 2021 - Now*

- Engaging youth in Climate Action and EC legislation
- Connecting with other Climate activists and sharing of good practices

Youth Task Force at the European Climate Pact *(Remote) Brussels, BE*
European Commission *Jun 2022 - Dec-2022*

- Part-time
- The Task Force functions as a team of three selected Climate Pact Ambassadors, along with staff from the responsible Directorate-General Climate Action at the European Commission (DG CLIMA) and the Pact Secretariat.
- Contribution to creative ideas and support the Pact Secretariat in reaching out to relevant youth stakeholders and multipliers within the Climate Pact;
- Informing and advising on strategies in reaching out to young people who are not currently active and harder to reach;
- Building partnerships with in-kind or knowledge partners and establish direct contacts to stakeholder and incubation programs that will support the implementation of the project ideas.

Head of the Curation and Communication departments *(Remote) Portugal, PT*
Reboot *Nov 2020 - Now*

- Was member of the Curation team, stepped up as head of department since Sept 2022
- Sensitization and communication of climate action and environmental, social and financial sustainability
- Event planning, speaker curation, writing and production of documentary

Co-founder and Director *(Remote) Portugal, PT*
Bora Mentorship Program *Jan 2021 - Aug 2023*

- Volunteering
- Mentoring program for high school students in Coruche (PT), which matches each student with an alumnus (studying in University or working) for more informed decisions about future paths and options.

Other work

- Tutoring classes in Programming, Mathematics, Science, Portuguese and Guitar
- Students' delegate (2015-2020)
- Member of Biomedical Students Association (2016)
- Collaborator in III, IV Bioengineering Week (2016-2017)
- Member of IST's mentorship programme (2016-2019)
- Contributing writer for some portuguese media
- Other projects and updated info here.

Languages

English	IELTS Academic 8.5 (C2)
Portuguese	Native proficiency
French	Working proficiency
Spanish	Working proficiency

References available upon request.