

# Sarah Gillet

POSTDOCTORAL FELLOW · HUMAN-ROBOT INTERACTION

✉ sgillet (at) mit (dot) edu | 🌐 <https://sarahgillet.com> | 📱 [sarahgillet](#)

My research investigates methods and algorithms for enabling autonomous robots to interact with (groups of) people, as a way to support human-robot and human-human interactions.

## Employment

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### Massachusetts Institute of Technology

POSTDOCTORAL FELLOW

Cambridge, MA, US

11/2025 – PRESENT

- Advisors: Prof. Cynthia Breazeal and Research Scientist Hae Won Park
- Funding: Marianne and Marcus Wallenberg Foundation

### KTH Royal Institute of Technology

POSTDOCTORAL RESEARCHER

Stockholm, Sweden

09/2024 – 10/2025

- Advisor: Prof Iolanda Leite

### Corporate Research, KUKA Robotics

SOFTWARE DEVELOPER FOR MOBILE ROBOTICS

Augsburg, Germany

07/2015 - 08/2018

- Research projects:
  - RobDream and REFILLS projects funded under Horizon 2020 of the European Union
  - Hybr-IT funded by the German Federal Ministry of Education and Research (BMBF)

## Education

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### KTH, Royal Institute of Technology

PH.D. IN COMPUTER SCIENCE

Stockholm, Sweden

09/2018 – 09/2024

- Thesis title: Computational Approaches to Interaction-Shaping Robotics
- Supervisors: Prof Iolanda Leite and Prof Hedvig Kjellström

### Yale University

VISITING ASSISTANT IN RESEARCH

New Haven, USA

10/2021 – 05/2022

### TU Dortmund

BSC & MSc IN COMPUTER SCIENCE, MINOR: ROBOTICS

Dortmund, Germany

10/2009 - 05/2015

## Fellowships & Grants

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|------|---|
| 2025 | <b>WASP-HS Postdoctoral Fellowship</b> , Marianne and Marcus Wallenberg foundation, providing funding for a two-year postdoctoral fellowship at MIT |
| 2024 | <b>Travel grant</b> , Karl Engvers foundation, providing 24000SEK (~2400\$) to attend HRI 2024  |
| 2022 | <b>Travel grant</b> , Signeuls stiftelse, providing 25000SEK (~2500\$) to attend CORL 2022  |
| 2022 | <b>Travel grant</b> , Signeuls stiftelse, providing 12600SEK (~1500\$) to attend RO-MAN 2022  |

## Awards & Honors

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| 2024 | <b>RSS Pioneers</b> , Selected to participate in the Robotics: Science and Systems (RSS) Pioneers, a highly selective workshop (15% acceptance rate) that brings together a cohort of the world's top early-career researchers. | Delft,<br>Netherlands |
| 2023 | <b>Outstanding reviewer recognition</b> , ACM/IEEE International Conference on Human-Robot Interaction (HRI)  | Stockholm             |
| 2022 | <b>DAAD Alnet fellow</b> , Selected to participate in the DAAD Postdoc-Net-AI 3/2022 – AI and Robotics  | Online                |
| 2021 | <b>Best User Studies Paper Award</b> , The 16th ACM/IEEE International Conference on Human-Robot Interaction  | Boulder, Co,<br>USA   |
| 2021 | <b>HRI Pioneers</b> , Selected to participate in the Human-Robot Interaction (HRI) Pioneers, a highly selective workshop to foster creativity, communication and collaboration between young researchers.                       | Boulder, Co,<br>USA   |

2020	<b>Best Late Breaking Report Award, Honorable Mentions</b> , The 15th ACM/IEEE International Conference on Human-Robot Interaction	Cambridge, United Kingdom
2016	<b>Hans-Uhde Award for an excellent master thesis in engineering sciences, Hans-Uhde Foundation</b> ,	Dortmund, Germany
2013	<b>2013 Best Graduation Award, TU Dortmund</b> , (Original title: "Jahrgangsstipendien 2013 der Gesellschaft der Freunde der Technischen Universität Dortmund e.V. auf Vorschlag der Fakultät für Informatik")	Dortmund, Germany
2012 – 2014	<b>Scholarship</b> , German National Academic Foundation (Orig: Studienstiftung des Deutschen Volkes)	
2010 – 2012	<b>Scholarship</b> , Industry-supported scholarship awarded yearly by the department of computer science (NRW Stipendium, Deutschlandstipendium)	NRW

## Publications

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### PH.D. THESIS

Sarah Gillet (2024). "Computational Approaches to Interaction-Shaping Robotics". PhD thesis. KTH Royal Institute of Technology.

### BOOK CHAPTERS

- B-1: Multiparty Interaction Between Humans and Socially Interactive Agents

**Sarah Gillet**, Marynel Vázquez, Christopher Peters, Fangkai Yang, Iolanda Leite

*The Handbook on Socially Interactive Agents: 20 Years of Research on Embodied Conversational Agents, Intelligent Virtual Agents, and Social Robotics Volume 2: Interactivity, Platforms, Application*, 2022, New York, NY, USA

### JOURNAL ARTICLES (PEER-REVIEWED)

- J-4: RoSI: A Model for Predicting Robot Social Influence

Hadas Erel, Marynel Vázquez, Sarah Sebo, Nicole Salomons, **Sarah Gillet**, Brian Scassellati  
*J. Hum.-Robot Interact.* Association for Computing Machinery, 2024

- J-3: Interaction-Shaping Robotics: Robots that Influence Interactions between Other Agents

**Sarah Gillet**, Marynel Vázquez, Sean Andrist, Iolanda Leite, Sarah Sebo  
*J. Hum.-Robot Interact.* Association for Computing Machinery, 2024

- J-2: Robot-Mediated Inclusive Processes in Groups of Children: From Gaze Aversion to Mutual Smiling Gaze

Sylvaine Tuncer, **Sarah Gillet**, Iolanda Leite  
*Frontiers in Robotics and AI* 9, 2022

- J-1: The impact of adding perspective-taking to spatial referencing during human–robot interaction

Fethiye Irmak Doğan, **Sarah Gillet**, Elizabeth J. Carter, Iolanda Leite  
*Robotics and Autonomous Systems* 134 p. 103654. 2020

### CONFERENCE PROCEEDINGS (PEER-REVIEWED)

- C-15: Opportunities to Talk, Negotiate and Laugh: Robot Behaviors that Shape Repeated Interactions in Groups of Older Adults

**Sarah Gillet**, Yujing Zhang, Donald McMillan, Nicole Salomons, Iolanda Leite  
*Under review*. 2025

- C-14: BT-ACTION: A Test-Driven Approach for Modular Understanding of User Instruction Leveraging Behaviour Trees and LLMs

Alexander Leszczynski, **Sarah Gillet**, Iolanda Leite, Fethiye Irmak Doğan  
*2025 34th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, 2025

- C-13: Templates and Graph Neural Networks for Social Robots Interacting in Small Groups of Varying Sizes

Sarah Gillet, Sydney Thompson, Iolanda Leite, Marynel Vázquez  
[Acceptance Rate: 25%]  
*2025 20th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, 2025

- C-12: Shielding for socially appropriate robot listening behaviors

**Sarah Gillet**, Daniel Marta, Mohammed Akif, Iolanda Leite  
*2024 33rd IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, 2024

- C-11: Let's move on: Topic Change in Robot-Facilitated Group Discussions

Georgios Hadjiantonis, **Sarah Gillet**, Marynel Vázquez, Iolanda Leite, Fethiye Irmak Doğan  
*2024 33rd IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, 2024

- C-10: Robot Duck Debugging: Can Attentive Listening Improve Problem Solving?

Maria Teresa Parreira, **Sarah Gillet**, Iolanda Leite  
*Proceedings of the 25th International Conference on Multimodal Interaction*, 2023, Paris, France

- C-9: Verbally Soliciting Human Feedback in Continuous Human-Robot Collaboration: Effects of the Framing and Timing of Reminders

Kate Candon, Helen Zhou, **Sarah Gillet**, Marynel Vázquez  
[Acceptance Rate: 25%]  
*Proceedings of the 2023 ACM/IEEE International Conference on Human-Robot Interaction*, 2023, New York, NY, USA

- C-8: How Did We Miss This? A Case Study on Unintended Biases in Robot Social Behavior  
**Maria Teresa Parreira, Sarah Gillet, Katie Winkle, Iolanda Leite**  
[Acceptance Rate: 18%]  
*Companion of the 2023 ACM/IEEE International Conference on Human-Robot Interaction, 2023, New York, NY, USA*
- C-7: Learning Gaze Behaviors for Balancing Participation in Group Human-Robot Interactions  
**Sarah Gillet, Maria Teresa Parreira, Marynel Vázquez, Iolanda Leite**  
[Acceptance Rate: 22%]  
*Proceedings of the 2022 ACM/IEEE International Conference on Human-Robot Interaction, 2022, Sapporo, Hokkaido, Japan*
- C-6: Ice-Breakers, Turn-Takers and Fun-Makers: Exploring Robots for Groups with Teenagers  
**Sarah Gillet, Katie Winkle, Giulia Belgiovine, Iolanda Leite**  
*2022 31st IEEE International Conference on Robot and Human Interactive Communication (RO-MAN), 2022*
- C-5: Robot Gaze Can Mediate Participation Imbalance in Groups with Different Skill Levels  
**Sarah Gillet\*, Ronald Cumbal\*, André Pereira, José Lopes, Olov Engwall, Iolanda Leite**  
[Best Paper Award][Acceptance Rate: 23%]  
*Proceedings of the 2021 ACM/IEEE International Conference on Human-Robot Interaction, 2021, New York, NY, USA*
- C-4: Autonomous Robot Behaviors for Shaping Group Dynamics  
**Sarah Gillet**  
[Acceptance Rate: 38%]  
*Companion of the 2021 ACM/IEEE International Conference on Human-Robot Interaction, 2021, Boulder, CO, USA*
- C-3: A social robot mediator to foster collaboration and inclusion among children  
**Sarah Gillet, Wouter van den Bos, Iolanda Leite**  
*Proceedings of Robotics: Science and Systems, 2020, Corvallis, Oregon, USA*
- C-2: A Robot Mediated Music Mixing Activity for Promoting Collaboration among Children  
**Sarah Gillet, Iolanda Leite**  
[Best Late Breaking Report, Honorable Mention]  
*Companion of the 2020 ACM/IEEE International Conference on Human-Robot Interaction, 2020, Cambridge, United Kingdom*
- C-1: Recognition and 6D Pose Estimation of Large-scale Objects using 3D Semi-Global Descriptors  
**David Nospes, Kirill Safronov, Sarah Gillet, Klaus Brillowski, Uwe E. Zimmermann**  
*2019 16th International Conference on Machine Vision Applications (MVA), 2019*

## Mentoring

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2025	<b>Yujing Zhang</b> , Social robots for fostering social connections in groups of elderly (Conference paper C-15, under review)	Master Student, KTH
2025	<b>Mengyu Liang</b> , Group activity recognition through the eye of a lawnmower	Master Student, KTH
2025	<b>Zhuocheng Wei</b> , Exploring LLMs for robot-moderated group discussions	Master Student, KTH
2025	<b>Jingwen Qin</b> , Balancing teenagers' individual and combined teaching behavior for learning how robots can support group interactions.	Master Student, KTH
2025	<b>Qiaolan Luo</b> , How should I sound? - Using ML to find a voice for the Blossom robot	Master Student, KTH
2024	<b>Alexander Leszczynski</b> , Leveraging LLMs and behavior trees to understand user instructions (Conference publication C-14)	Master Student, KTH
2023	<b>Georgios Hadjiantonis</b> , Topic change in robot-moderated group discussions (Conference publication C-11)	Master Student, KTH
2023	<b>Mohammed Akif</b> , Safe Reinforcement Learning for Social Human-Robot Interaction (Conference publication C-12)	Master Student, KTH
2022	<b>Maria Teresa Parreira</b> , Robot Duck Debugging: Can Attentive Listening Improve Problem Solving? (Conference publications C-8 and C-9)	Research Engineer, KTH
2021	<b>Paul Gorgis</b> , Appropriate Robot Gaze for Mediating Confrontational Scenarios	Master Student, KTH
2021	<b>Ravi Bir</b> , Implementing Machine Learning Techniques to Improve the Performance of Socially Assistive Robots	Master Student, KTH
2020	<b>Ke Zhang</b> , Using Augmented-Reality for Visualizing a Social Robot's Internal State	Master Student, KTH
2016	<b>David Nospes</b> , Recognition and 6D Pose Estimation of Large-scale Objects (Conference publication C-1)	Bachelor Student, KUKA

# Teaching experience

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## Teaching Assistance

SOCIAL ROBOTICS COURSE, KTH ROYAL INSTITUTE OF TECHNOLOGY (2 COURSE ROUNDS)

Stockholm, Sweden

10/2022 – 10/2025

- Responsible for course organization
- Assisting in refining assignments
- Teaching robot tutorials and the lecture on learning in and from human-robot interactions

## Guest lecturer

SOCIAL ROBOTICS COURSE, KTH ROYAL INSTITUTE OF TECHNOLOGY

Stockholm, Sweden

11/2021

- Responsible for the lecture on learning in and from human-robot interactions

## Teaching Assistance

ARTIFICIAL INTELLIGENCE, KTH ROYAL INSTITUTE OF TECHNOLOGY

Stockholm, Sweden

01/2019 – 01/2022

- Responsible for giving tutorials and grading of oral presentations
- Creation of new exercises

## Thesis and Project Supervision

SUPERVISING MASTER, BACHELOR AND PROJECT STUDENTS

2015 – PRESENT

- Supervising project and master thesis students at KTH
- Supervising students in joined projects with academic supervisors while at KUKA Roboter GmbH

## Teaching Assistance

DATA STRUCTURES, ALGORITHMS AND PROGRAMMING 1, DEPARTMENT OF COMPUTER SCIENCE, TU DORTMUND

Dortmund, Germany

2010 - 2014

# Invited talks

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6/2024	RSS 2024 Workshop GROUND, Invited talk "Computational Approaches to Interaction-Shaping Robotics"	Delft
12/2021	Yale University, Intelligent Machines Group, "Robots in Groups"	New Haven
10/2021	Chicago University, Invited talk on paper "Robot Gaze Can Mediate Participation Imbalance"	Online
06/2021	First Furhat Conference on Social Robots in Research, Non-verbal robot behaviors for learning in groups	Online

# Outreach

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2025	School visit, Hosting a school class and providing insight into the field of Human-Robot Interaction	KTH
2022	28 ready-to-go ideas for high school projects, KTH, Proposal of the topic of social robotics with small research questions ready for high school students.	KTH
11/2021	Demo Days, Code Haven, Talk about personal path to computer science and robotics research as part of a computer science outreach event.	Online
2020, 2021	Schnupperuni TU Dortmund, Invited talk at a plenary about industry and academic work experience	Online
	The Future Needs Giants, Event for young students that identify as women and or non-binary and want to learn about technical education at KTH. Demonstrating a human-robot interaction scenario as part of the robot exhibition.	Stockholm, Sweden
09/2019	"Upplev, upptäck, utforska – som en ingenjör" at Tekniska Museet, Exhibiting a demonstration with the Pepper robot and answering questions about robots to students from different schools interested in engeneering subjects	Stockholm, Sweden
2016, 2017	Introductory lecture to industrial robotics for children, Leading the lectures and practical exercises with a small mobile industrial robot	Augsburg, Germany
2013, 2014	Schnupperuni TU Dortmund, Planning, coordination and execution of a get-to-know week in computer science targeted at young women	Dortmund, Germany

# Academic service

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## Program Committee

IEEE INTERNATIONAL CONFERENCE ON ROBOTICS AND AUTOMATION (2026), *Associate Editor*

## Workshop Program Organizing Committee

RSS PIONEERS WORKSHOP AT RSS 2025, *General Co-Chair*

ROBOTS FOR LEARNING (R4L) WORKSHOP AT HRI 2023, *Co-Organizer*

PIONEERS WORKSHOP AT HRI 2022, *Program and General Co-Chair*

## Referee for Conference Proceedings

ROBOTICS: SCIENCE AND SYSTEMS (RSS)

ACM/IEEE INT. CONFERENCE ON HUMAN-ROBOT INTERACTION (HRI)

IEEE/RSJ INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS AND SYSTEMS (IROS)

ACM CHI CONFERENCE ON HUMAN FACTORS IN COMPUTING SYSTEMS

INTERNATIONAL CONFERENCE ON ROBOT AND HUMAN INTERACTIVE COMMUNICATION (RO-MAN)

IEEE INTERNATIONAL CONFERENCE ON ROBOTICS AND AUTOMATION (ICRA)

## Referee for Journal Articles

PALADYN. JOURNAL OF BEHAVIORAL ROBOTICS

IEEE, TRANSACTIONS ON INTERACTIVE INTELLIGENT SYSTEMS

ACM, TRANSACTIONS ON HUMAN-ROBOT INTERACTION

SPRINGER, INTERNATIONAL JOURNAL OF SOCIAL ROBOTICS

IEEE, TRANSACTIONS ON AFFECTIVE COMPUTING