

# Sarah Gillet

PHD CANDIDATE · HUMAN-ROBOT INTERACTION

KTH, Royal Institute of Technology, School of Electrical Engineering and Computer Science,  
Division of Robotics, Perception and Learning, Lindstedtsvägen 24, 4th floor, 11428 Stockholm, Sweden

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**Research vision:** My vision is to develop **autonomous social robots** that use **multimodal** behaviors to **collaborate and interact** with people to encourage and support the **flourishing of people and their interactions**.

## Employment & Education

### KTH, Royal Institute of Technology

PHD STUDENT IN ROBOTICS

- Thesis title: Computational Approaches to Interaction-Shaping Robotics
- Supervisors: Prof Iolanda Leite and Prof Hedvig Kjellström
- Defence will be held on September 5th, 2024

Stockholm, Sweden

09/2018 – PRESENT

### Yale University

VISITING ASSISTANT IN RESEARCH

- Advisor: Marynel Vázquez

New Haven, USA

10/2021 – 05/2022

### Corporate Research, KUKA Robotics

SOFTWARE DEVELOPER FOR MOBILE ROBOTICS

- 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)

Augsburg, Germany

07/2015 – 08/2018

### TU Dortmund

BSc & MSc IN COMPUTER SCIENCE, MINOR: ROBOTICS

Dortmund, Germany

10/2009 – 05/2015

## Scholarship & Awards

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, 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	
2021	<b>Best User Studies Paper Award</b> , The 16th ACM/IEEE International Conference on Human-Robot Interaction	Boulder, Co, 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, 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> , (Original title: Hans-Uhde-Preis für herausragende Abschlussarbeiten in den Ingenieurwissenschaften)	Dortmund, Germany
2013	<b>2013 Best Graduation Award, TU Dortmund</b> , (Original title: "Jahrgangsbestenpreis 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	
2010 – 2012	<b>Scholarship</b> , Industry-supported scholarship awarded yearly by the department of computer science (NRW Stipendium, Deutschlandstipendium)	

## Awarded Grants

- 2024 **Travel grant**, Karl Engvers foundation, providing 24000SEK (~2400\$) to attend HRI 2024
- 2022 **Travel grant**, Signeuls stiftelse, providing 25000SEK (~2500\$) to attend CORL 2022
- 2022 **Travel grant**, Signeuls stiftelse, providing 12600SEK (~1500\$) to attend RO-MAN 2022

# Publications

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## 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-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: 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

*Proceedings of the 2023 ACM/IEEE International Conference on Human-Robot Interaction*, 2023, New York, NY, USA

### C-9: 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-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: 18.2%]

*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

*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: Autonomous Robot Behaviors for Shaping Group Dynamics

**Sarah Gillet**

*Companion of the 2021 ACM/IEEE International Conference on Human-Robot Interaction*, 2021, Boulder, CO, USA

### C-4: 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: 22.8%]

*Proceedings of the 2021 ACM/IEEE International Conference on Human-Robot Interaction*, 2021, New York, NY, USA

### C-3: A Robot Mediated Music Mixing Activity for Promoting Collaboration among Children

**Sarah Gillet**, Iolanda Leite

*Companion of the 2020 ACM/IEEE International Conference on Human-Robot Interaction*, 2020, Cambridge, United Kingdom

### C-2: 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-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

2023	<b>Georgios Hadjiantonis</b> , Topic change in robot-moderated group discussions	Master Student, KTH
2023	<b>Mohammed Akif</b> , Safe Reinforcement Learning for Social Human-Robot Interaction	Master Student, KTH
2022	<b>Maria Teresa Parreira</b> , Robot Duck Debugging: Can Attentive Listening Improve Problem Solving?	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
2017	<b>Simon Schlegel</b> , 2D object modeling for mobile robotics with LIDAR scanners	Master student, KUKA
2016	<b>David Nospes</b> , Recognition and 6D Pose Estimation of Large-scale Objects	Bachelor Student, KUKA

## Teaching experience

### Teaching Assistance

SOCIAL ROBOTICS COURSE, KTH ROYAL INSTITUTE OF TECHNOLOGY

Stockholm, Sweden

10/2022 – 01/2023

- Responsible for course organization
- 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 – PRESENT

- 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

- Help sessions for first term students in learning Java, preparing them for intermediate examinations

## Invited talks

06/2021	<b>First Furhat Conference on Social Robots in Research</b> , Non-verbal robot behaviors for learning in groups	Online
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## Outreach

2022	<b>28 ready-to-go ideas for high school projects, KTH</b> , Proposal of the topic of social robotics with small research questions ready for high school students.	KTH
11/2021	<b>Demo Days, Code Haven</b> , Talk about personal path to computer science and robotics research as part of a computer science outreach event.	Online
2020, 2021	<b>Schnupperuni TU Dortmund</b> , Invited talk at a plenary about industry and academic work experience	Online
11/2019	<b>The Future Needs Giants</b> , 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	<b>"Upplev, upptäck, utforska – som en ingenjör" at Tekniska Museet</b> , Exhibiting a demonstration with the Pepper robot and answering questions about robots to students from different schools interested in engineering subjects	Stockholm, Sweden
2016, 2017	<b>Introductory lecture to industrial robotics for children</b> , Leading the lectures and practical exercises with a small mobile industrial robot	Augsburg, Germany
2013, 2014	<b>Schnupperuni TU Dortmund</b> , 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 Chair & General Chair

PIONEERS WORKSHOP AT ACM/IEEE INTERNATIONAL CONFERENCE ON HUMAN-ROBOT INTERACTION (HRI) 2022

## Referee for Conference Proceedings

ROBOTICS: SCIENCE AND SYSTEMS (RSS), 2020

ACM/IEEE INT. CONFERENCE ON HUMAN-ROBOT INTERACTION (HRI), 2020–2024

IEEE/RSJ INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS AND SYSTEMS (IROS), 2017, 2021-2022

ACM CHI CONFERENCE ON HUMAN FACTORS IN COMPUTING SYSTEMS, 2022

## 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

## Student Volunteer

ACM/IEEE INT. CONFERENCE ON HUMAN-ROBOT INTERACTION (HRI), 2020