

# SARAH STROHKORB SEBO

sarah.sebo@yale.edu ◊ (785)-580-6718 ◊ [www.sarahsebo.com](http://www.sarahsebo.com)

Department of Computer Science ◊ Yale University

51 Prospect Street, New Haven, CT, 06511, USA

## RESEARCH OVERVIEW

---

**I develop robots that improve the performance of human-robot teams by shaping team dynamics to promote inclusion, trust, and cohesion.** Using computational models that detect relevant verbal and nonverbal social cues, predict high-level social dynamics, and generate decision-making policies for robot actions, I explore how a robot’s social actions within a group shape human team members’ behavior.

**Key words:** human-robot interaction (HRI), robotics, groups and teams

## EDUCATION

---

**Ph.D. in Computer Science** 2014 - 2020

Yale University, Advisor: Brian Scassellati

Thesis Title: “Developing Robots Teammates that Enhance Social Dynamics and Performance in Human-Robot Teams”

Thesis Committee: Brian Scassellati, Malte Jung, Marynel Vázquez, Nicholas Christakis

**B.S. in Electrical and Computer Engineering** 2010 - 2014

Franklin W. Olin College of Engineering

## AWARDS AND HONORS

---

Dagstuhl Seminar on “Social Agents for Teamwork and Group Interactions” Participant 2019

Rising Stars in EECS Program 2019

National Science Foundation Graduate Research Fellowship - Honorable Mention 2016

## PUBLICATIONS IN PREPARATION

---

- P3 **Sarah Strohkorb Sebo** and Brian Scassellati (2020). Backchanneling Robots Positively Shape Team Inclusion and Psychological Safety in Human-Robot University Course Project Teams. *ACM Transactions on Human-Robot Interaction*.
- P2 **Sarah Strohkorb Sebo**, Evelyn Roberts, Sean Hackett, Tom Wallenstein, Michal Lewkowicz, Brian Scassellati (2020). Backchanneling as a Signal for Psychological Safety and Inclusion for Human-Robot Teams. *The ACM International Conference on Multimodal Interaction (ICMI 2020)*.
- P1 Shannon Yasuda, Devon Doheny, **Sarah Strohkorb Sebo**, Nicole Salomons, Brian Scassellati (2020). Perceived Agency of a Social Norm Violating Robot. *ACM Transactions on Human-Robot Interaction (THRI)*.

## PUBLICATIONS IN SUBMISSION

---

- S2 **Sarah Strohkorb Sebo**, Brett Stoll, Brian Scassellati, Malte F. Jung (2020). Robots in Groups and Teams: A Literature Review. *Computer Supported Cooperative Work (CSCW)*.
- S1 Margaret Traeger, **Sarah Strohkorb Sebo**, Malte F. Jung, Brian Scassellati, Nicholas A. Christakis (2020). Vulnerable Robots Positively Shape Human Conversational Dynamics in a Human-Robot Team. *Proceedings of the National Academy of Sciences*. [In Revision - Submitted 06/21/2019]

## CONFERENCE PUBLICATIONS

---

- C7 **Sarah Strohkorb Sebo**, Ling Liang Dong, Nicholas Chang, Brian Scassellati (2020). Strategies for the Inclusion of Human Members within Human-Robot Teams. To appear in *Proceedings of the the Fifteenth ACM/IEEE International Conference on Human Robot Interaction (HRI 2020)*.  
Acceptance rate: 24%
- C6 **Sarah Strohkorb Sebo**, Priyanka Krishnamurthi, Brian Scassellati (2019). “I Don’t Believe You”: Investigating the Effects of Robot Trust Violation and Repair. In *Proceedings of the Fourteenth ACM/IEEE International Conference on Human Robot Interaction (HRI 2019)*.  
Acceptance rate: 24%
- C5 Aditi Ramachandran\*, **Sarah Strohkorb Sebo\***, Brian Scassellati (2018). Personalized Robot Tutoring using the Assistive Tutor POMDP (AT-POMDP). In *Proceedings of The Thirty-Third AAAI Conference on Artificial Intelligence (AAAI)*.  
Acceptance rate: 16%, \*equal contribution
- C4 **Sarah Strohkorb Sebo**, Margaret Traeger, Malte Jung, Brian Scassellati (2018). The Ripple Effects of Vulnerability: The Effects of a Robot’s Vulnerable Behavior on Trust in Human-Robot Teams. In *Proceedings of the Thirteenth ACM/IEEE International Conference on Human Robot Interaction (HRI 2018)*.  
Acceptance rate: 23%
- C3 Nicole Salomons, Michael Van der Linden, **Sarah Strohkorb Sebo**, Brian Scassellati (2018). Humans Conform to Robots: Disambiguating Trust, Truth, and Conformity. In *Proceedings of the Thirteenth ACM/IEEE International Conference on Human Robot Interaction (HRI 2018)*.  
Acceptance rate: 23%
- C2 **Sarah Strohkorb**, Ethan Fukuto, Natalie Warren, Charles Taylor, Bobby Berry, Brian Scassellati (2016). Improving Human-Human Collaboration Between Children With a Social Robot. In *Proceedings of the 25th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN 2016)*.  
Acceptance rate: 47%
- C1 **Sarah Strohkorb**, Iolanda Leite, Natalie Warren, Brian Scassellati (2015). Classification of Children’s Social Dominance in Group Interactions with Robots. In *Proceedings of the 2015 ACM on International Conference on Multimodal Interaction (ICMI 2015)*.  
Acceptance rate: 41%

## WORKSHOP PAPERS AND ABSTRACTS

---

- W5 **Sarah Strohkorb Sebo** and Brian Scassellati (2019). Enhancing Social Collaboration in Human-Robot Teams. In *Proceedings of the 2019 Pioneers Workshop at the 15th Robotics: Science and Systems Conference (RSS 2019)*.
- W4 **Sarah Strohkorb** and Brian Scassellati (2017). Cultivating Psychological Safety in Human-Robot Teams with Social Robots. In *Proceedings of the 2017 Workshop on Robots in Groups and Teams at the 20th ACM Conference on Computer-Supported Collaborative Work and Social Computing (CSCW 2017)*.
- W3 **Sarah Strohkorb**, Chien-Ming Huang, Aditi Ramachandran, Brian Scassellati (2016). Establishing Sustained, Supportive Human-Robot Relationships: Building Blocks and Open Challenges. In *Proceedings of the 2016 AAAI Spring Symposium on Enabling Computing Research in Socially Intelligent Human-Robot Interaction: A Community-Driven Modular Research Platform*. AAAI Press.
- W2 **Sarah Strohkorb**, Brian Scassellati. Promoting Collaboration with Social Robots. In *Proceedings of the Eleventh ACM/IEEE International Conference on Human Robot Interaction (HRI 2016)*.
- W1 **Sarah Strohkorb**, Brian Scassellati (2015). Promoting Social Collaboration between Children with a Social Robot. In *Proceedings of the 2015 AAAI Fall Symposium on AI for Human-Robot Interaction (AI-HRI 2015)*. AAAI Press.

## TEACHING EXPERIENCE

---

<b>Intelligent Robotics - Lab</b> , Yale University A semester-long research project course investigating intelligent robots. Role: Teaching Assistant	Spring 2017, Fall 2018
<b>Intelligent Robotics</b> , Yale University An introduction to the construction of intelligent, autonomous systems. Role: Teaching Assistant	Fall 2016, Spring 2018
<b>CS50</b> , Yale University An introductory course for non-majors to computer science. Role: Teaching Assistant (also lead a 12 person weekly section)	Fall 2015
<b>Software Design</b> , Olin College An introductory course to computer science. Role: Teaching Assistant	Spring 2014

## GRANTS

---

<b>The 2017 HRI Pioneers Workshop at the 2017 ACM/IEEE International Conference on Human-Robot Interaction</b> Key personnel, contributed to grant development and writing National Science Foundation PI: Brian Scassellati	2017
<b>Travel Grants</b> Rising Stars in EECS - Attendee	2019
RSS Pioneers - Attendee	2019

HRI Pioneers - General Chair Organizer	2016
Yale Computer Science Department Grant to attend the Grace Hopper Celebration	2016
HRI Pioneers - Attendee	2015
HRI Student Volunteer	2015
CRA-W Grad Cohort Workshop	2015

## MENTORING

---

Co-authored publication numbers refer to the publication lists above.

Hannah Burgess, Yale Undergraduate - Senior Cognitive Science Thesis Project	2019
Michal Lewkowicz, High School Student then Yale Undergraduate	2019
<b>Publications: P2</b>	
Tom Wallenstein, Yale Undergraduate	2019
<b>Publications: P2</b>	
Sean Hackett, Yale Undergraduate - Senior Computer Science Thesis Project	2019
<b>Publications: P2</b>	
Shannon Yasuda, Yale Undergraduate	2019
<b>Publications: P1</b>	
Kayleigh Bishop, Yale Undergraduate	2018-2019
Michael Schutzman, High School Student	2018
Nicholas Chang, Yale Undergraduate	2018
<b>Publications: C7</b>	
Ling Dong, Yale Undergraduate	2018
<b>Publications: C7</b>	
Evelyn Roberts, Yale Undergraduate - Senior Cognitive Science Thesis Project	2017-2019
<b>Publications: P2</b>	
Priyanka Krishnamurthi, Yale Undergraduate	2017-2018
<b>Publications: C6</b>	
Neil Madhavani, High School Student	2017
Rachel Ha, Yale Undergraduate - Senior Cognitive Science Thesis Project	2017
Adam Erickson, Yale Undergraduate	2016
Isabelle Gallagher, High School Student	2016
Ethan Fukuto, Pomona College Undergraduate	2015
<b>Publications: C2</b>	
Bobby Berry, Yale Undergraduate	2015
<b>Publications: C2</b>	
Charles Taylor, Yale Undergraduate	2015
<b>Publications: C2</b>	
Natalie Warren, Yale Undergraduate	2014-2015
<b>Publications: C1, C2</b>	

## SERVICE

---

### Organizing Committee

HRI Pioneers Workshop at HRI 2017 2016-2017  
General Co-Chair

### Conference Paper Referee

International Conference on Human-Robot Interaction (HRI) 2017-2020  
International Conference on Human Factors in Computing Systems (CHI) 2019  
AAAI Conference on Artificial Intelligence (AAAI) 2019  
International Conference on Robotics and Automation (ICRA) 2019  
ACM Symposium on on User Interface Software and Technology (UIST) 2019  
International Symposium on Robot and Human Interactive Communication (RO-MAN) 2016-2018  
Interaction Design and Children (IDC) Conference 2018  
International Conference on Intelligent Robots and Systems (IROS) 2017

### Journal Article Referee

Interaction Studies 2019  
ACM Transactions on Human-Robot Interaction 2018  
IEEE Transactions on Cognitive and Developmental Systems 2017  
International Journal of Child-Computer Interaction 2017  
International Journal of Social Robotics 2016

## SELECTED OUTREACH

---

**Yale Social Robotics Lab Open Houses**, Yale University, New Haven CT 2015-2019  
Robotics demonstrations including Nao, Keepon, and Jibo at annual lab open houses for the public, drawing approximately 100 people each time the event was held from the greater New Haven community.

**Yale Young Global Scholars Program Presentations**, Yale University, New Haven CT 2019  
Presented exciting research about human-robot tutoring to several 200-student sessions of high school students from around the globe interested in studying science and engineering.

**Teen Science Club Presentation**, Guilford Library, Guilford CT 2016  
Presented information and a robotics demonstration to a group of local teens interested in robotics.

## PRESS

---

03/29/2019 [Robot discovers that lying about a betrayal helps to rebuild trust](#), New Scientist

10/03/2016 [Taking Robots to the Next Level: Small Talk and Bear Hugs?](#), PC Mag