Isaac Sheidlower

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Appointments and Affiliations

Postdoctoral Researcher, Brown University Aug. 2025–
Data Science Institute, Center for Technological Responsibility, Reimagination and Redesign
Lab PI: Assistant Professor Serena Booth

Education

Ph.D., Department of Computer Science, Tufts University 2020–May 2025
Advisor: Dr. Elaine Short
Dissertation: *Empowering Approaches for Creative, Intentional, and Informed Use of Robots*

B.A., Cognitive Science, Rutgers University New Brunswick 2016–2020
Minor: Computer Science
Honors: Rutgers New Brunswick Honors Program; Phi Beta Kappa

Publications and Papers

Conference Publications

[1] **Isaac Sheidlower**and Serena Booth. "Leveraging Corrective Feedback Dynamics to Diagnose Robot Errors." Under review at HRI 2027.

[2] Chunyue Xue, **Isaac Sheidlower**, and Serena Booth. "Human-Admissibility in Human–Robot Interaction." Under review at HRI 2027.

[3] Gefei Liu, Sonya Rashkovan, Sophia Lloyd George, **Isaac Sheidlower**, and Serena Booth. "AI Safety via Debate is Compromised by Cognitive Biases." Under review at ICLR 2027. https://arxiv.org/abs/2610.05461

[4] **Isaac Sheidlower**, Tomo Lazovich, Harini Suresh, and Serena Booth. "Rethinking Robot Ownership: Comparing Public, Corporate, and Private Ownership Models." *Proceedings of the AAAI ACM Conference on AI, Ethics, and Society*, 9(4), 2289–2305, 2026. https://doi.org/10.1609/aies.v9i4.43307

[5] **Isaac Sheidlower**, Jindan Huang, James Staley, Bingyu Wu, Qicong Chen, Reuben M. Aronson, and Elaine Schaertl Short. "User Understanding of Robot Learning Evaluations through Task Success Rates and Beyond." Accepted for publication at HAI 2026. https://www.arxiv.org/abs/2602.03920

[6] **Isaac Sheidlower**, Emma Bethel, Douglas Lilly, Reuben M. Aronson, and Elaine Schaertl Short. "Imagining In-distribution States: How Predictable Robot Behavior Can Enable User Control Over Learned Policies." In *2024 33rd IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, Pasadena, CA, USA, 2024. https://ieeexplore.ieee.org/document/10731233

[7] Jindan Huang, **Isaac Sheidlower**, Reuben M. Aronson, and Elaine Schaertl Short. "On the Effect of Robot Errors on Human Teaching Dynamics." In *Proceedings of the 12th International Conference on Human-Agent Interaction (HAI '24)*, 150–159. Association for Computing Machinery, 2024. https://doi.org/10.1145/3687272.3688320

[8] **Isaac Sheidlower**, Mavis Murdock, Emma Bethel, Reuben M. Aronson, and Elaine Short. "Online Behavior Modification for Expressive User Control of RL-Trained Robots." In *Proceedings of the 2024 ACM/IEEE International Conference on Human-Robot Interaction*, 639–648. Association for Computing Machinery, 2024. https://doi.org/10.1145/3610977.3634947

[9] **Isaac Sheidlower**, Reuben Aronson, and Elaine Short. "Modifying RL Policies with Imagined Actions: How Predictable Policies Can Enable Users to Perform Novel Tasks." *Proceedings of the AAAI Symposium Series* 2, no. 1 (2024): 192–197. https://doi.org/10.1609/aaaiss.v2i1.27670

[10] **Isaac Sheidlower**, Allison Moore, and Elaine Short. "Keeping Humans in the Loop: Teaching via Feedback in Continuous Action Space Environments." In *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 863–870. Kyoto, Japan, 2022. https://ieeexplore.ieee.org/document/9982282

[11] **Isaac Sheidlower**, Allison Moore, and Elaine Short. "Environment Guided Interactive Reinforcement Learning: Learning from Binary Feedback in High-Dimensional Robot Task Environments." In *Proceedings of the 21st International Conference on Autonomous Agents and Multiagent Systems*, 1726–1728. AAMAS '22, 2022. Extended abstract. https://dl.acm.org/doi/10.5555/3535850.3536090

Journal Publications

[12] Kim Baraka, Taylor Kessler Faulkner, Erdem Biyik, Serena Booth, Mohamed Chetouani, Daniel H. Grollman, Akanksha Saran, Emmanuel Senft, Silvia Tulli, Anna-Lisa Vollmer, Antonio Andriella, Helen Beierling, Tiffany Horter, Jens Kober, **Isaac Sheidlower**, Matthew E. Taylor, Sanne Van Waveren, and Xuesu Xiao. "Human-Interactive Robot Learning: Definition, Challenges, and Recommendations." Published in *ACM Transactions on Human-Robot Interaction, Volume 15, Issue 2* https://dl.acm.org/doi/10.1145/3779297.

Workshop Publications

[13] Chunyue Xue, **Isaac Sheidlower**, and Serena Booth. "Good Enough: Human Admissibility from Noisy Preferences." In the *Oops, I Erred—Collecting, Curating and Using Imperfect Data for Realistic Scenarios* Workshop at CoRL 2026.

[14] **Isaac Sheidlower**, Jindan Huang, James Staley, Bingyu Wu, Qicong Chen, Reuben M. Aronson, and Elaine Schaertl Short. "Investigating User Perceptions of Robot Foundation Model Performance and Evaluations." In *Companion of the 2026 ACM/IEEE International Conference on Human-Robot Interaction*. Late-Breaking Report. https://dl.acm.org/doi/10.1145/3776734.3794505

[15] **Isaac Sheidlower**, Reuben M. Aronson, and Elaine Short. "Towards Interpretable Foundation Models of Robot Behavior: A Task Specific Policy Generation Approach." Training Agents with Foundation Models Workshop at RLC 2024. https://openreview.net/pdf?id=umkqPTUDED

[16] **Isaac Sheidlower** and Elaine Schaertl Short. "When Oracles Go Wrong: Using Preferences as a Means to Explore." In *Companion of the 2021 ACM/IEEE International Conference on Human-Robot Interaction*, 344–348. Association for Computing Machinery, 2021. Best LBR Nominee. https://doi.org/10.1145/3434074.3447189

Paper Presentations and Posters

[17] **Isaac Sheidlower**, Tomo Lazovich, Harini Suresh, and Serena Booth. "Rethinking Robot Ownership: Comparing Public, Corporate, and Private Ownership Models." Paper presentation at WeRobot 2026 (acceptance rate: 14%).

[18] **Isaac Sheidlower**"Robots as Social Goods: Rethinking the Future of Robot Ownership" Poster at Northeast Robotics Colloquium (NERC) 2025

Mentoring

Brown University Ph.D. Students

- Jessica Tang (September 2026–), general mentoring as a lab postdoc
- Meredith Stewart (September 2026–), general mentoring as a lab postdoc
- Eylam Tagor (September 2026–), general mentoring as a lab postdoc
- Chunyue Xue (September 2025–), general mentoring as a lab postdoc and co-author
- Aza Tulepbergenov (September 2025–), general mentoring as a lab postdoc

Brown University Master's Students

- Gefei Liu (September 2025–), supervising an LLM-alignment project for the UK AISI

Brown University Undergraduate Students

- Sofiia Rashkovan and Sophia Lloyd George (September 2025–), supervising an LLM-alignment project for the UK AISI

Tufts University Undergraduate Students

- Tyler Chen and Bingyu Wu (September 2024–May 2025), worked on projects related to user understanding of generalist robot policies
- Douglas Lilly (September 2023–), worked on developing a flower bed with multiple weight sensors for detecting watering success
- Emma Bethel (January 2023–June 2024), worked on developing novel assistive robot and anomaly detection algorithms
- Alina Shah and Teo Patrosio (May 2022–June 2023), worked on developing a codebase for a Fetch Freight100
- Allison Moore (September 2021–May 2022), worked on data visualization techniques for educational and research purposes

Reviewer

- International Conference on Autonomous Agents and Multiagent Systems (AAMAS), Program Committee
- International Joint Conference on Artificial Intelligence (IJCAI), Program Committee
- ACM/IEEE Conference on Human-Robot Interaction (HRI)
- ACM Transactions on Human-Robot Interaction (T-HRI)
- IEEE International Conference on Robotics and Automation (ICRA)
- IEEE Robotics and Automation Letters (RA-L)
- Robotics Science and Systems (RSS)
- Robotics Science and Systems (RSS) Pioneers
- ACM/IEEE Conference on Human-Robot Interaction (HRI) Pioneers

Teaching

Brown University Guest Lecture

- Human-AI Interactinon — Fall 2025, 2026

Tufts University Course

- Introduction to ROS — Spring 2023

Tufts University Teaching Assistant

– COMP 150/ME 193: Assistive Algorithms — Spring 2021

Invited Talks

- University of Alberta, Alberta Machine Intelligence Institute, Artificial Intelligence Seminar (Fall 2025)
- Sony AI Game AI Reading Group (Fall 2025)
- Tufts University Human-Robot Interaction Seminar (Spring 2025)

Awards

- Robotics Science and Systems, RSS Pioneer 2026, "Unlocking User Control Over Algorithms for Fluid and Aligned Human-Robot Interactions"
- HRI 2026, Meta Special Session on "HRI and Consumer Robots: Building Robots that are Useful and Acceptable." Travel award for paper presentation: $1,500 USD.

Leadership and Service

Workshop Organization

- Co-organizer, The Science of Physical AI Safety (SPAIS) Workshop, CoRL 2026

Related Experience

ACM/IEEE Conference on Human-Robot Interaction (HRI) 2021

Student Volunteer

– Assisted in editing camera-ready PDFs to be more accessible.