

Eric Rosen

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Education

- 2018 – Present **PhD Student in Computer Science**, *Brown University*, Providence, RI.
Research areas are in Artificial Intelligence, Machine Learning, and Robotics. Coursework included: Learning and Sequential Decision Making, Computer Vision, Computational Semantics, Computational Linguistics, Design and Implementation of Programming Languages
- 2018 – 2020 **Masters of Computer Science**, *Brown University*, Providence, RI.
- 2014 – 2018 **Bachelor of Science in Computer Science and Applied Mathematics**, *Brown University*, Providence, RI.
Received Bachelor's degrees with honors in Computer Science and Applied Mathematics. Coursework included: Applied Artificial Intelligence, Machine Learning, Neural Modeling Laboratory, Computing and Probability, Design and Analysis of Algorithms, Operations Research: Probabilistic Models, Operations Research: Deterministic Models, Digital Signal Processing

Publications

Journal Papers

- IJRR 2019 **Communicating and Controlling Robot Arm Motion Intent Through Mixed-Reality Head-Mounted Displays**, *Eric Rosen, David Whitney, Daniel Ullman, Elizabeth Phillips, Stefanie Tellex.*

Conference Papers

- IROS 2020 **Building Plannable Representations with Mixed Reality**, *Eric Rosen, Nishanth Kumar, Nakul Gopalan, Daniel Ullman, Stefanie Tellex, George Konidaris.*
- Best Paper Finalist**
IROS 2020 **Mixed Reality as a Bidirectional Communication Interface for Human-Robot Interaction**, *Eric Rosen, David Whitney, Michael Fishman, Daniel Ullman, Stefanie Tellex.*
- RO-MAN 2020 **A General Methodology for Teaching Norms to Social Robots**, *Bertram Malle, Eric Rosen, Vivienne Bihe Chi, Matthew Berg, Peter Haas.*
- RSS 2020 **Simultaneously Learning Transferable Symbols and Language Groundings from Perceptual Data for Instruction Following**, *Nakul Gopalan, Eric Rosen, Stefanie Tellex, George Konidaris.*
- ICRA 2019 **End-User Robot Programming Using Mixed Reality**, *Samir Yitzhak Gadre, Eric Rosen, Gary Chien, Elizabeth Phillips, Stefanie Tellex, George Konidaris.*
- IROS 2018 **ROS Reality: A Virtual Reality Framework Using Consumer-Grade Hardware for ROS-Enabled Robots**, *Eric Rosen, David Whitney, Daniel Ullman, Elizabeth Phillips, Stefanie Tellex.*
- ICRA 2017 **Reducing Errors In Object-Fetching Interactions Through Social Feedback**, *David Whitney, Eric Rosen, James MacGlashan, Lawson LS Wong, Stefanie Tellex.*

Symposium Papers

- SIEDS 2020 **Comparing Virtual Reality Interfaces for the Teleoperation of Robots**, *Rebecca Hetrick, Nicholas Amerson, Boyoung Kim, Eric Rosen, Ewart J. de Visser, and Elizabeth Phillips.*
- ISRR 2017 **Comparing Robot Grasping Teleoperation Across Desktop And Virtual Reality With ROS Reality**, *David Whitney, Eric Rosen, Elizabeth Phillips, George Konidakis, Stefanie Tellex.*
- ISRR 2017 **Communicating robot arm motion intent through mixed reality head-mounted displays**, *Eric Rosen, David Whitney, Elizabeth Phillips, George Konidakis, Stefanie Tellex.*

Workshop Papers

- ICRA 2020 **Locally Observable Markov Decision Processes**, *Max Merlin, Naveen Parikh, Eric Rosen, George Konidakis.*
- RSS 2019 **Mapping Language to Transferable Symbols For Instruction Following**, *Nakul Gopalan, Eric Rosen, Stefanie Tellex.*
- NeurIPS 2019 **Replication of Experience Replay for Continual Learning**, *Eric Rosen, Thao Nguyen, Ifrah Idrees.*
- VAM-HRI 2019 **Knowledge Acquisition for Robots Through Mixed Reality Head-Mounted Displays**, *Eric Rosen, Nishanth Kumar, Stefanie Tellex.*
- VAM-HRI 2018 **Learning from Crowdsourced Virtual Reality Demonstrations**, *David Whitney, Eric Rosen, Stefanie Tellex.*
- VAM-HRI 2018 **Testing Robot Teleoperation Using A Virtual Reality Interface With ROS Reality**, *Eric Rosen, David Whitney, Elizabeth Phillips, Daniel Ullman, Stefanie Tellex.*

Posters

- NERC 2015 **Writing Tools for Robots**, *Eric Rosen, Sam Title, John Oberlin, Stefanie Tellex.*

Service

- VAM-HRI 2020 **Co-Chair Organizer.**
- VAM-HRI 2021 **Co-Chair Organizer.**

Experience

- Summer 2020 **Uber ATG R&D Internship**, San Francisco, CA.
Developed deep learning architectures to improve end-to-end motion planning for self-driving vehicles.
- Summer 2017 **Amazon Robotics R&D Internship**, North Reading, MA.
Researched machine learning techniques to improve robot manipulation in Amazon warehouses with multimodal feedback.
- 2014 – 2018 **Undergraduate Research Assistant**, *Brown University*, Providence, RI.
Assisted and conducted published research in Humans to Robots Laboratory and Intelligent Robot Laboratory. ROS for programming robots, Java for probabilistic planning, Python for deep learning.
- Fall 2018 **Head Graduate Teacher Assistant for Introduction to Robotics**, *Brown University*, Providence, RI.

- Fall 2016, 2017 **Head Teacher Assistant for Topics in Grounding Language for Robotics**, *Brown University*, Providence, RI.
- Spring 2017 **Head Teacher Assistant for Applied Artificial Intelligence**, *Brown University*, Providence, RI.
- Summer 2016, 2017, 2018 **Teacher Assistant for Summer@Brown STEM II Program**, *Brown University*, Providence, RI.
Taught students how to use Arduinos and programm in C#

Awards and Honours

- 2019 **The IBM Watson AI XPRIZE Runner-up**, *XPRIZE Foundation*.
A \$5 million dollar challenge where 59 selected teams demonstrate how humans can collaborate with powerful artificial intelligence (AI) technologies to tackle some of the world's greatest challenges. Nominated and proposed a three-phase interdisciplinary research program to identify human social and moral norms and implement them in robots.
- 2019 **Analog Devices Realtime Sensor Fusion Challenge Runner-up**, *Analog Devices*.
An innovation challenge for engineering students and startups to enhance context awareness in robotic system by fusing sensor data. Nominated and proposed solutions for fusing RGB-D, IMU, and thermal sensor data for enhancing the production of action maps in robot applications.
- 2019 **Hyundai Visionary Challenge Winner**, *Hyundai, Brown University*.
A competition to accelerate research innovations in smart mobility that drive the creation of sustainable cities across the globe. Developed a multi-modal model for human-robot interaction involving goal specification and planning verification.
- 2018 **Honorable Mention for Outstanding Undergraduate Researchers from Computing Research Association (CRA)**.
- 2018 **Outstanding Undergraduate Research Award**, *Brown University*.
Given for best research amongst undergraduates in Computer Science at Brown University
- 2018 **Most Innovative Award**, *Hack@Brown*.
Awarded for building Seereal: An Augmented Reality app that uses cereal box packages as image targets in order to create a more engaging breakfast experience.
- 2017 **Best User Experience Award**, *Hack@Brown*.
Awarded for building SommeliAR: A Mixed Reality wine tasting experience.

Skills

- Computing \LaTeX , Python, Pytorch, Java, C++, ROS, Unity, Linux
- Language English (native), Mandarin (basic proficiency)