

SHEN LI

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Education

Carnegie Mellon University, Pittsburgh PA

Aug. 2015-May 2017

M.S. in Robotics GPA: 3.57/4.00

Research Advisor: Dr. Siddhartha Srinivasa and Dr. Stephanie Rosenthal

The Pennsylvania State University, State College PA

Aug. 2011-May 2015

B.S. in Computer Science and B.S. in Psychology

Computer Science Major GPA: 3.96; Psychology Major GPA: 3.81; Cumulative GPA: 3.89/4.00

Research Advisors: Dr. Sean Brennan, Dr. Frederick Brown, and Dr. Cynthia LaJambe

Publications

Peer-Reviewed Conference Papers

- **Shen Li**, Rosario Scalise, Henny Admoni, Stephanie Rosenthal, and Siddhartha Srinivasa. "[Spatial references and perspective in natural language instructions for collaborative manipulation.](#)" RO-MAN. 2016.
- **Shen Li**, Rosario Scalise, Henny Admoni, Stephanie Rosenthal, and Siddhartha Srinivasa. "[Evaluating Critical Points in Trajectories.](#)" RO-MAN. 2017.

Workshop Papers

- **Shen Li**, Rosario Scalise, Henny Admoni, Stephanie Rosenthal, and Siddhartha Srinivasa. "[Perspective in Natural Language Instructions for Collaborative Manipulation.](#)" R:SS Workshop on Model Learning for Human-Robot Communication. 2016.

Peer-Reviewed Journal Articles

- Rosario Scalise, **Shen Li**, Henny Admoni, Stephanie Rosenthal, and Siddhartha Srinivasa. "[Natural Language Instructions for Human-Robot Collaborative Manipulation.](#)" IJRR. 2018.

Thesis

- **Shen Li**. "[Automatically Evaluating and Generating Clear Robot Explanations.](#)" Thesis for Master of Science in Robotics at RI, CMU. 2017.

Research Experience

Personal Robotics Lab, Carnegie Mellon

Aug. 2015-Present

M.S. Researcher, advised by Dr. Siddhartha Srinivasa and Dr. Stephanie Rosenthal

- My research goal is to achieve **seamless human-robot collaboration** by developing **mutual trust** and **understanding** in human-robot teams.
 - My Master's research has been focusing on improving the transparency of robot behaviors for human observers through giving *natural language-based* and *demonstration-based explanations*. In particular, we make robots to generate referring expressions efficiently to identify target objects clearly in a tabletop manipulation scenario and to generate expressive trajectories to demonstrate their optimizations in a navigation scenario.

Intelligent Vehicles and Systems Laboratory, Penn State

May 2014-July 2014

Undergraduate Researcher, advised by Dr. Sean Brennan

- I worked on an indoor autonomous wheelchair for Amyotrophic Lateral Sclerosis and Cerebral Palsy patients. I mounted sensors and calibrated them for stair and curb detection. I implemented **Hough Transform** and **Ray Casting** to find an obstacle-free steering direction with LiDAR and expedited this process through a **Split-and-Merge** algorithm.

Human Performance Rhythms Laboratory, Penn State

Aug. 2013-Dec. 2014

Undergraduate Researcher, advised by Dr. Frederick Brown and Dr. Cynthia Lajambe

- I implemented **Psychomotor Vigilance Task (PVT)** with minimized visual distracting stimuli in C++ to investigate how sleep deprivation affected human alertness and voice.

Access Control List Research, Penn State

Sept. 2013-Dec. 2013

Undergraduate Researcher, advised by Dr. Anna Squicciarini

- I developed a online user study interface where participants were asked to make decisions about privacy preferences in a group to investigate how people affected each other in group decision-making processes.

Teaching Experience

SIE International Summer School

June 2013-Aug. 2013

Teaching Assistant, collaborating with Dr. Edward Chang

Beijing, China

- I collaborated with Dr. Edward Chang in teaching two undergrad psychology courses: Introduction to Psychology and Human Sexuality.

Awards and Honors

Jan. 2016-May 2017

2014-Present

Aug. 2011-May 2015

Sept. 2014

Full scholarship from advisors at Carnegie Mellon University

Member of the Honor Society of Phi Kappa Phi

Dean's List at the Pennsylvania State University

First Place in the Brown Bag Circuit Design Competition at the Pennsylvania State University

Academic Services

2016

2017

Reviewer for RO-MAN Symposium

Reviewer for RO-MAN Symposium

Media Publicity

Dec. 2016

[Dr. Stephanie Rosenthal's article](#) about our work *Why Did the Robot Do That* is on Y-combinator!

Technical Skills

Programming Languages Python, C++, MATLAB, Java, C, C#, PHP, JavaScript, jQuery, HTML, CSS, \LaTeX , Android, Verilog, Assembly languages

Software ROS, Gazebo, Boost Graph Library, Scikit-Learn, Matplotlib, OpenRave, OMPL, ARGoS, PIL, SPSS, Git, Arduino, Unity, MySQL

Operating Systems Linux, Mac, Windows