Jake Brawer

Personal Data

Ph.D.:	3rd Year
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Research overview

Summary — I build **human–robot collaborative systems** that learn through their interactions with people. My research draws upon recent innovations in machine learning as well as foundational techniques in artificial intelligence for designing systems that learn and reason in a **transparent** and **robust** way.

Education

2016-Current **Ph.D. in Computer Science**

Yale University, Advisor: Brian Scassellati

2012-2016 **B.A. in Cognitive Science; Computer Science minor**

Vassar College

Research Experience

2016-Current **Robotics Ph.D. student** –Social robotics laboratory, *Yale University* Human–robot collaboration research under the supervision of Professor Brian Scassellati.

2014-2015 **Research Fellow** –Interdisciplinary robotics research lab, *Vassar College* Designed and programmed a genotype-phenotype mapping scheme for mobile behavior-based robots incorporating sexual reproduction and ontogenetic factors.

2014 **Neuroscience researcher** –Icahn School of Medicine, *Mount Sinai* Conducted fMRI research on resting state networks in macaque monkeys. Acquired skills using fMRI analysis software FSL.

Teaching Experience

Spring 2018	**Intelligent Robotics** Teaching Assistant
Fall 2017	**Object Oriented Programming** Teaching Assistant
Fall 2014, Fall 2015	**Perception and Action** Teaching Assistant

Technical and scientific skills

Research	Human–robot collaboration, natural language understanding
Programming	**Python** (and scientific tools), **C-C++**, **Rust**, **LaTeX**, **Git**, **Jekyll**, **Emacs**, **Continuous integration** (with Travis)
ML/AI	General machine learning and computer vision techniques
Robots	Robot operating system (**ROS**), 2+ years experience with **Baxter research robot**
System	4+ years of daily **Linux** experience

Grants

March 2018 — **Bridging the Gap: An NSF Workshop on Conversational Agents and Human–Robot Interaction**
Justine Cassell, Brian Scassellati, Jake Brawer, Michael Madaio

NSF Cyber–Human Systems (CHS), Robust Intelligence, National Robotics Initiative. Award #1829237

Service

Conference reviews	International Conference on Humanoid Robots (**Humanoids**; 2018) International Conference on Human–Robot Interaction (**HRI**; 2017)
Journal reviews	ACM Transactions on Human–Robot Interaction (**THRI**; 2019)

Students supervised	Acshi Haggenmiller (2016-2017) Sarah Widder (2017-Current) Tan Zong Xuan (2017-2018) Kevin Choi (2018)

Conference proceedings

Brawer, **Jake**, Olivier Mangin, Alessandro Roncone, Sarah Widder, and Brian Scassellati (2018). "**Situated Human–Robot Collaboration: predicting intent from grounded natural language**". In: *Intelligent Robots and Systems (IROS)*. URL: https://jakebrawer.com/assets/pdfs/IROS18.pdf.

Scassellati, Brian, **Jake Brawer**, Katherine Tsui, Setareh Nasihati Gilani, Melissa Malzkuhn, Barbara Manini, Adam Stone, Geo Kartheiser, Arcangelo Merla, Ari Shapiro, et al. (2018). "**Teaching Language to Deaf Infants with a Robot and a Virtual Human**". In: *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. ACM, p. 553. URL: https://jakebrawer.com/assets/pdfs/CHI18.pdf.

Tan, Zong Xuan, **Jake Brawer**, and Brian Scassellati (2018). " **That's Mine! Learning Ownership Relations and Norms for Robots** ". In: *Thirty-second AAAI conference on artificial intelligence*. URL: https://jakebrawer.com/assets/pdfs/AAAI18.pdf.

Journal articles

Brawer, **Jake**, Aaron Hill, Ken Livingston, Eric Aaron, Joshua Bongard, and John H Long Jr (2017). "**Epigenetic Operators and the evolution of Physically embodied robots**". In: *Frontiers in Robotics and AI* 4, p. 1. URL: https://jakebrawer.com/assets/pdfs/FRONTIERS17.pdf.