# Jake Brawer

## Personal Data


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|---|---|
| Ph.D.: | 3rd Year |
| Website: | http://jakebrawer.vip/ |
| Email: | jake.brawer@yale.edu |
| Github: | https://github.com/JakeBrawer |


## 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

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

## Technical and scientific skills

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| 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: 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

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| Conference reviews | International Conference on Humanoid Robots (**Humanoids**; 2018)<br>International Conference on Human–Robot Interaction (**HRI**; 2017) |

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| Students supervised | Acshi Haggenmiller (2016-2017)<br>Sarah Widder (2017-Current)<br>Tan Zong Xuan (2017-2018)<br>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.github.io/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.github.io/assets/pdfs/CHI18.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.github.io/assets/pdfs/FRONTIERS17.pdf.