

# Samuel Spaulding

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## Education

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- **Massachusetts Institute of Technology** **Cambridge, MA**  
*Graduate Research Assistant & S.M. Candidate* *Personal Robots Group, MIT Media Lab*  
*Advisor: Cynthia Breazeal* *2013 - present*
  - **Research Focus:** I am working on applications of Artificial Intelligence for Robotics, specifically designing and building robotic systems that exhibit social intelligence, are easy for people to interact with, and can provide engaging and educational experiences. I am particularly interested in applying these skills to the domains of Education and Entertainment, and am working to develop Socially Assistive Robots to further these goals.
  - **Relevant Coursework:** How to Make (almost) Anything, Affective Computing, Mixed Multi-Agent Networks, The Human Intelligence Enterprise
- **Yale University** **New Haven, CT**  
*B.S. with Distinction, Computer Science* *2009-2013*
  - **Relevant Coursework:** Advanced Artificial Intelligence, Intelligent Robotics, Language and Computation, Advanced Computational Vision, Algorithm Design and Analysis, Systems Programming, Vector Calculus, Linear Algebra

## Work Experience

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- **Walt Disney Imagineering - Research** **Cambridge, MA**  
*Research Associate* *Summer 2012*  
*Advisor: Jonathan Yedidia*
  - Worked on a Machine Learning research project. As a member of a Natural Language Processing research team, I was integrally involved in design, implementation, testing, and production of a prototype sentiment analysis system for Walt Disney Imagineering.
  - Our project, "**Making Sense of the Blogosphere: Semantic Analysis of Text Mined from the Web**" won the **Judges' Special Distinction - Methodology** award in the company-wide 2012 Business Intelligence and Data Analytics Competition
- **Amazon.com** **Seattle, WA**  
*Software Development Engineer Intern* *Summer 2011*
  - Designed and developed a website that produced dynamic client-side graphs based on internal team metrics. Responsible for the project from design, through implementation, and into production.
  - Member of a four-person team whose submission, an Android app called "SmileIKnow" was a finalist at the 2011 Amazon Mobile Security Hackathon
- **Yale Social Robotics Laboratory** **New Haven, CT**  
*Undergraduate Research Assistant* *Summer 2010 - May 2013*  
*Advisor: Brian Scassellati*
  - Responsibilities included designing, implementing, and testing AI/Robotics systems and conducting Human-Robot Interaction research.

## Publications

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### Peer-Reviewed Conference Publications

- [1] Dan Leyzberg, **Sam Spaulding**, Mariya Toneva, and Brian Scassellati. "**The Physical Presence of a Robot Tutor Increases Cognitive Learning Gains**" Presented at the 34th Annual Meeting of the Cognitive Science Society. (Cog Sci 2012)

- [2] Dan Leyzberg, **Sam Spaulding**, and Brian Scassellati. "**Personalizing Robot Tutors to Individuals' Learning Differences**" Presented at the 9th ACM/IEEE International Conference on Human-Robot Interaction. (HRI 2014).

## Peer-Reviewed Workshop Papers

- [1] **Sam Spaulding** and Cynthia Breazeal. "**Animacy Perception and Mind Attribution in a Cognitive Architecture for Human-Robot Interaction**" Presented at the Workshop on Cognitive Architectures for Human-Robot Interaction at HRI 2014.
- [2] W. Bradley Knox, **Sam Spaulding**, and Cynthia Breazeal. "**Learning Social Interaction from the Wizard: A Proposal**" Presented at the 3rd Workshop on Machine Learning for Interactive Systems (MLIS '14) at AAAI 2014.

## Invited Talks

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- 2013 Invited Presenter, 9th ACM/IEEE International Conference on Human-Robot Interaction (HRI 2014). Presented our paper "**Personalizing Robot Tutors to Individuals' Learning Differences**"
- 2013 Invited Speaker, Yale Undergraduate Science Symposium
- 2013 Invited Speaker, Yale Engineering and Science Weekend Symposium
- 2013 TEDx Speaker, "**TEDxYale: Solve for Y**" Conference
- 2012 Invited Speaker, Yale Undergraduate Science Symposium
- 2012 Invited Speaker, Yale Engineering and Science Weekend Symposium
- 2011 Invited Speaker, Yale Undergraduate Science Symposium
- 2011 Invited Speaker, Yale Engineering and Science Weekend Symposium
- 2010 Invited Panelist, Yale Computer Science Department **IBM Jeopardy! Challenge Discussion**

## Academic Awards

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- 2013-2016 National Science Foundation Graduate Research Fellowship
- 2013 Mellon Undergraduate Research Grant
- 2012 Sigma Xi Undergraduate Research Award

## Technical Skills

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**Software:** Extensive experience with Object-Oriented (Java/C/C++), Functional (LISP), and Scripting (Ruby/Python) Languages as well as MATLAB and Mathematica. Strong Web Development and Design skills including HTML/CSS/Javascript and Ruby on Rails. Experienced with Android mobile development.

**Hardware:** Significant fabrication training and experience with: Laser Cutter, Vinyl Cutter, CNC Mill, Molding/Casting, Composite Materials, and 3D Printing. Significant electronics experience, including PCB design and fabrication, and circuit design for radio, motor, and sensing applications with mobile robots.

**Robots:** Extensive experience developing and maintaining hardware and software for multiple commercial and in-house robotic platforms, including experience with ROS and OpenCV.

-**Commercial robots:** iRobot Create, Aldebaran Nao, and BeatBots Keepon.

-**In-house robots:** 57 DOF Mobile-Dexterous-Social (MDS) Humanoid platform, 6 DOF Dragonbot platform, and 5 DOF Affective Intelligent Driving Agent (AIDA)

## Teaching Experience

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- 2012 **Course Assistant**, CS 201: Introduction to Computer Science, Yale University. Tutored introductory Computer Science students 5 hours per week. Covered basic concepts like recursion through more advanced topics like formal language theory, logic, and computability theory.

## Activities and Non-academic Awards

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2010	<b>Jeopardy! College Championship, First Runner-up.</b> Won 3 of 4 games and second place overall.
2011	<b>First Place, Academic Competition Federation (ACF) National Championship.</b> Member of four-person collegiate academic quiz team that won the ACF National Championship in 2011