

Samuel Barrett

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Work Experience

- **Sony AI** Cambridge, MA
Senior Research Scientist 11/19 - present
 - Developed AI with superhuman performance in a multiplayer game using reinforcement learning
 - Served as manager and technical lead for a team of researchers and engineers
 - Led research on learning in multiplayer setting using deep learning and self play
 - Helped design and build the core machine learning library
 - Built the interface between the AI system and the game upon which all learning and testing is done
 - Instituted and ran company project coordination using standups, sprints, and issue tracking
 - Helped define metrics, testing plans, and development plans
- **Cogitai, Inc.** Cambridge, MA
Senior Research Scientist 8/16 - 11/19
 - Primary architect and developer of *continua-ai*: the machine learning library powering Continua
 - Brought Cogitai's core product to market: the Continua platform for reinforcement learning, supervised learning, and unsupervised learning
 - Co-led in hiring and helped develop the hiring process
 - Defined product requirements, created project timelines, and guided company product strategy
- **Amazon Robotics** North Reading, MA
Research Scientist 11/14 - 8/16
 - Researched and developed a machine learning system for detecting problems in Amazon warehouses, saving millions of dollars a year
 - Performed research on applying machine learning to robotics systems
 - Created and taught a course on machine learning at Amazon Robotics
- **University of Texas at Austin** Austin, TX
NDSEG Fellow, Graduate Research Assistant, and Teaching Assistant 8/08 - 10/14
 - Created an empirically supported algorithm for cooperating with unknown teammates
 - Developed a novel transfer learning algorithm for combining information from many sources
 - Developed behaviors for locomotion, teamwork, and whole body control for humanoid robots
 - Led robot soccer team to win the international RoboCup Standard Platform League in 2012
- **Stevens Institute of Technology** Hoboken, NJ
Researcher 6/05 - 8/08
 - Combined text analysis with analysis of social networking to predict the popularity of news stories
 - Optimized sensor placement for detecting underwater threats for harbor security

Education

- **University of Texas At Austin** Austin, TX
Ph.D., Department of Computer Science 8/08 - 10/14
 - Dissertation: *Making Friends on the Fly: Advances in Ad Hoc Teamwork*
 - Advisor: Prof. Peter Stone
 - Research: Ad hoc teams, reinforcement learning, transfer learning, and robotics
- **Stevens Institute of Technology** Hoboken, NJ
Bachelor of Science in Computer Science 8/04 - 5/08
 - Minor in Mathematics, Minor in Music Technology

Skills

- **Proficient Languages:** Python, C++, C
- **Familiar Languages:** Java, Javascript, Typescript, SQL, Scheme, Lua, MATLAB
- **Tools:** TensorFlow, MXNet, Numpy, Scikit-learn, Pandas, Jupyter, Git, L^AT_EX, Github, Subversion, Jira, Confluence, Linux, Unix, Windows, MacOS
- **Skills:** Reinforcement Learning, Deep Learning, Machine Learning, Robotics, Artificial Intelligence, Supervised Learning, Transfer Learning, Computer Vision

Awards and Honors

Cogitai, Inc.

- Co-inventor on one patent application

Amazon Robotics

- Co-inventor on six granted patents

The University of Texas at Austin

- RoboCup SPL World 3rd Place Team Leader, 2013
- RoboCup SPL World Champions Team Leader, 2012
- RoboCup 3D Simulator League World Champions Team Member, 2011
- RoboCup SPL World 3rd Place Team Member, 2010
- National Defense Science and Engineering Graduate (NDSEG) Fellowship, 2009-2012

Stevens Institute of Technology

- NSF GRFP Honorable Mention, 2008
- Barry M. Goldwater Scholarship, 2007-2008
- Upsilon Pi Epsilon, Computer Science International Honor Society, 2006-2008
- Neupauer Scholarship, four year, full tuition, merit scholarship, 2004-2008

Code Releases

- Reinforcement learning and pursuit domain code release
https://github.com/sambarrett/rl_pursuit
- UT Austin Villa 2012 code release
http://www.cs.utexas.edu/~AustinVilla/?p=downloads/source_code_and_binaries

Selected Publications

1. **Samuel Barrett**, Avi Rosenfeld, Sarit Kraus, and Peter Stone. Making friends on the fly: Cooperating with new teammates. *Artificial Intelligence*, October 2016.
<http://sam.barrettnexus.com/publications/details-AIJ16-Barrett.html>
2. **Samuel Barrett**, Noa Agmon, Noam Hazon, Sarit Kraus, and Peter Stone. Communicating with unknown teammates. In *Proceedings of the Twenty-First European Conference on Artificial Intelligence*, August 2014.
<http://sam.barrettnexus.com/publications/details-ECAI14-Barrett.html>
3. **Samuel Barrett**, Katie Genter, Yuchen He, Todd Hester, Piyush Khandelwal, Jacob Menashe, and Peter Stone. UT Austin Villa 2012: Standard platform league world champions. In Xiaoping Chen, Peter Stone, Luis Enrique Sucar, and Tijn Van der Zant, editors, *RoboCup-2012: Robot Soccer World Cup XVI*, Lecture Notes in Artificial Intelligence. Springer Verlag, Berlin, 2013.
<http://sam.barrettnexus.com/publications/details-LNAI12-Barrett.html>