

Elizabeth M. Hilliard

CONTACT INFORMATION	199 Brown Street Apt. 1 Providence, RI 02906	em.hilliard@gmail.com cs.brown.edu/~betsy
FOCUS	Improving social policy for Artificial Intelligence on the web; Decision making in multi-agent markets and stochastic games; Developing autonomous trading agents and computational mechanism design; Improving Computer Science education and diversification	
EDUCATION	Brown University , Providence, RI USA Ph.D. Candidate, Computer Science, Advisor: Prof. Amy Greenwald, Began Fall 2011 M.S. Computer Science, May 2013 Brandeis University , Waltham, MA USA B.A. cum laude, Computer Science, Economics, May 2011	
AWARDS AND FELLOWSHIPS	<ul style="list-style-type: none">• Brown Institute For Brain Science Research Grant, Fall 2014• Coline M. Makepeace Fellowship, Brown University, Fall 2011-Spring 2012• Presidential Scholarship, Brandeis University, Fall 2007-Spring 2011• Dean's List, Brandeis University, Fall 2007-2010• Girl Scout Gold Award, 2006	
PUBLICATIONS	J. Austerweil, S. Brawner, A. Greenwald, E. Hilliard, M. Ho, M.L. Littman, J. MacGlashan and C. Trimbach., How Other-Regarding Preferences Can Promote Cooperation in Non-Zero-Sum Grid Games <i>AAAI Spring Symposium Series</i> , Mar. 2016. E. Hilliard, A. Greenwald, and V. Naroditskiy. An Algorithm for the Penalized Multiple Choice Knapsack Problem. <i>European Conference on Artificial Intelligence</i> , Aug. 2014. E. Sodomka, E. Hilliard, A. Greenwald, and M.L. Littman. Coco-Q: Learning in Stochastic Games with Side Payments. <i>International Conference on Machine Learning</i> , June 2013. T. Goff, A. Greenwald, E. Hilliard, W. Ketter and E. Sodomka. JACK: A Java Auction Configuration Kit. In <i>AAMAS Workshop on Trading Agent Design and Analysis</i> , June 2012. S. Schexnayder, B. Shumpert, E. Hilliard, C. Rizy, D. Vogt. RRPM Research Brief: Survey and Related Research on Retention of Officers and Other Military Personnel. Oak Ridge, TN: Oak Ridge National Laboratory, Environmental Sciences Division, Jan. 2010.	
TECHNICAL SKILLS	Java, Python, L ^A T _E X, Bash, MATLAB, R, Apache Pig, SQL, JavaScript, SAS, STATA, Hadoop	
WORK EXPERIENCE	Google, AdWords Optimization Team, New York, NY Fall 2015 <ul style="list-style-type: none">• Mentored by Dr. Jon Feldman• Conducted computational and theoretical analysis of and prototyped new bidding algorithms for Ad Words Optimization Tab product. Yahoo! Inc., Data and Analytics Team, Sunnyvale, CA Summer 2014 <ul style="list-style-type: none">• Mentored by Dr. Ayman Farahat• Worked with a team of Yahoo! researchers and engineers to examine the fairness and participation effects of major mechanisms used in Fantasy Football. Also analyzed fantasy football users' behavior and engagement in different Yahoo! products across the fantasy season. Brandeis University Osher Life-long Learning Institute, Waltham, MA 2010-2011 <ul style="list-style-type: none">• Assisted staff and course instructors with computer and audio-visual set-up and operation. Oak Ridge National Laboratory, Oak Ridge, TN Summers 2008-2010 <ul style="list-style-type: none">• Mentored by economist Dr. David Vogt• Collected, cleaned and conducted preliminary analysis of demographic and economic indicators for all US Metropolitan Statistical Areas in order to model regional effects of the Great Recession. (2010)• Edited and contributed survey analysis to a report on US military officer retention and satisfaction. (2010)	

- Implemented an agent-based simulation tool in Python to help Army National Guard(ARNG) decision-makers improve recruitment and strategic planning. (2009)
- Conducted background analysis of the United States Governmental student loan system in an effort to track improper payments. (2008)
- Helped run three week-long data-analysis training sessions for ARNG recruiters. (2008-2010)

TEACHING
EXPERIENCE

Brown University

- Graduate Teaching Assistant, Introduction to Artificial Intelligence, Fall 2014, Spring 2013
- Managed teams of undergraduate and graduate students working on the Trading Agent Competitions for Ad Auctions and Ad Exchanges, 2012-2016.

PROFESSIONAL
SERVICE

Brown Computer Science - Faculty Graduate Liaison

- Served as representative of the Graduate Students to the Faculty. Spring 2015-Fall 2016

Brown Computer Science - Sheridan Center Departmental Liaison

- Served as departmental representative to Brown's Sheridan Center for Teaching and Learning. Fall 2013-Spring 2015

Brown Computer Science - Ph.D. Recruiting

- Organized the weekend visit for admitted Ph.D. students. Spring 2012, 2013.

Brown Computer Science - Women in Computer Science, Mentoring Program

- Mentored female undergraduates on research opportunities, career decisions and applying to graduate school.
- Regularly organized informational events and social activities for graduate women in the department.

Open Source Contributions

- Developed a user interface for JACK, a Java Auction Configuration Kit.
- Contributed to the Wikipedia page on the Knapsack Problem.

SELECT
RELEVANT
COURSEWORK

Brown University

- Trading Agent Design and Analysis
- Behavioral Economics and Decision Theory
- Behavioral and Experimental Economics
- Topics in Advanced Algorithms
- Learning and Sequential Decision Making
- Machine Learning
- Design and Analysis of Algorithms
- Introduction to Computer Vision
- Fundamentals of Systems
- Computational Molecular Biology

Brandeis University

- Artificial Intelligence
- Advanced Database Systems
- Discrete Structures
- Econometrics
- Experimental Economics

University of St Andrews, Scotland

- Economics of Innovation
- Advanced Macroeconomics