

## ELENA LEAH GLASSMAN

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**Interests** My current research focuses on improving the assistance available to students working on computer-based engineering challenges. This work involves providing supplemental information to teachers supervising large numbers of engineering solution submissions, facilitating effective peer-pairing, and automating certain types of debugging assistance for students.

**Keywords** Human-computer interaction, information visualization, learning sciences, educational technology, machine learning.

<b>Education</b>	Massachusetts Institute of Technology	Cambridge, MA
	Ph.D., Electrical Engineering and Computer Science	Expected 2015
	4.8/5.0 GPA (Cumulative Graduate GPA; includes Master's)	
	Massachusetts Institute of Technology	Cambridge, MA
	Master of Eng., Electrical Engineering and Computer Science	February 2010
	Massachusetts Institute of Technology	Cambridge, MA
	B.S., Electrical Science and Engineering	June 2008
	4.8/5.0 GPA	

**Publications and  
Patent  
Applications**

- Elena L. Glassman, Ned Gulley, and Robert C. Miller. "Toward Facilitating Assistance to Students Attempting Engineering Design Problems." Accepted for publication in the *Proceedings of the Tenth Annual International Conference on International Computing Education Research*, ICER '13. ACM.
- Elena L. Glassman. "Visualizing and Classifying Multiple Solutions to Engineering Design Problems." Extended Abstract. Accepted for publication as part of the Doctoral Consortium of the *Tenth Annual International Computing Education Research Conference*, ICER '13. ACM.
- Elena L. Glassman, Alexis Lussier Desbiens, Mark Tobenkin, Mark Cutkosky, and Russ Tedrake. "Region of attraction estimation for a perching aircraft: A Lyapunov method exploiting barrier certificates." In *Proceedings of the 2012 IEEE International Conference on Robotics and Automation (ICRA)*, 2012.
- Elena L. Glassman and Russ Tedrake. "A quadratic regulator-based heuristic for rapidly exploring state space." In *Proceedings of the International Conference on Robotics and Automation (ICRA)*, 2010.
- Elena L. Glassman. "A wavelet-like filter based on neuron action potentials for analysis of human scalp electroencephalographs." *IEEE Transactions on Biomedical Engineering* 52, no. 11 (2005).
- Elena L. Glassman and John V. Guttag. "Reducing the number of channels for an ambulatory patient-specific EEG-based epileptic seizure detector by applying recursive feature elimination." *Proceedings of the 28th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS)*. Aug. 30 - Sept. 3, 2006. New York City, USA.
- John V. Guttag, Ali Shoeb, Elena L. Glassman, Eugene I. Shih. USPTO Application Number: 20090082689 "Method and apparatus for reducing the number of channels in an eeg-based epileptic seizure detector."

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**Teaching  
Certifications and  
Experience**

- Computer Science Instructor for Middle East Education through Technology (MEET), teaching Israeli and Palestinian high school students Summer '13
- Created a short educational video on radio receiver technology for the Singapore University of Technology and Design, funded and produced by the MIT Teaching and Learning Lab Released Summer '13
- Recitation Instructor for 6.004: Computation Structures Spring '12 - present
- Teaching Assistant for 6.01: Introduction to EECS 1 Fall '11
- Completed the MIT Teaching and Learning Lab's Graduate Student Teaching Certificate Program
- Co-taught EECS Department's Review of Signals and Systems IAP '11, '12, '13
- Tutor for 6.003: Signals and Systems and 6.041: Probabilistic Systems Analysis through the MIT EECS/HKN tutoring service '06 - '11

**Leadership**

- Co-President of the MIT Middle East Education through Technology (MEET) student group, recruiting MIT students as summer instructors Fall '14 - present
- MIT EdTech Reading Group Co-Organizer Fall '12
- Vice-President, MIT Chapter of Eta Kappa Nu, an EECS honor society Apr. '08 - Apr. '09

**Professional  
Activities and  
Honors****Fellowships**

- Amar Bose Teaching Fellowship Jan. '14 - Dec '14
- NSF Graduate Research Fellowship Sept. '11 - Sept. '14
- National Defense Science and Engineering Graduate Fellowship Sept. '08 - Sept. '11

**Selected Scholarships and Awards**

- EECS Masterworks Oral Thesis Presentation Award May 2009
- Intel Foundation Young Scientist Award, given to the top 3 out of 1300 projects at Intel International Science and Engineering Fair May 2003

**Appearances in Popular and Scientific Media**

- Appeared in *Science*: "Rising Stars" (30 May 2003), *Science* 300 (5624), 1368d.
- Profiled on CNN's *Lou Dobbs Tonight*, in a segment titled "America's Bright Future" Fall 2003
- Guest on CNN's *American Morning* May 2003

**Committee Memberships**

- MIT Council on Educational Technology Spring 2005
- EECS Department Education Committee Dec. '06 - Fall '08

**Selected Research Graduate Research Assistant  
Experiences**

Feb '13 - present

User Interface Design Group, MIT Computer Science and Artificial Intelligence Lab  
Cambridge, MA

- Developing human-machine systems to support teachers supervising computer-based engineering challenges.
- Developing automated assistance tools for students tackling computer-based engineering challenges.

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**Visiting Researcher**

Fall '10

Biomimetics and Dexterous Manipulation Lab, Stanford University  
Stanford, CA

- As a representative of the MIT Robot Locomotion Group, I collaborated with Stanford University's Biomimetics and Dexterous Manipulation Lab, focusing on control algorithms for future dexterous autonomous aerial vehicles.

**Graduate Research Assistant**

June '08 - May '12

Robot Locomotion Group, MIT Computer Science and Artificial Intelligence Lab  
Cambridge, MA

- Designed and published optimal control-based distance metrics for use in Rapidly-Exploring Random Trees (RRTs), which can increase the tractability of kinodynamic planning.

**Undergraduate Researcher**

Feb. '05 - June '06

Networks and Mobile Systems Group, MIT Computer Science and Artificial Intelligence Lab  
Cambridge, MA

- Created a data-analysis algorithm for determining the smallest patient-specific subsets of electrodes that still allow an EEG-based epileptic seizure detector to perform at its most accurate level.