Elena Leah Glassman

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Areas of specialization

Human-Computer Interaction • Programming Systems • Data Science • Human & machine teaching

Education

2016-2018	EECS Postdoctoral Scholar	Berkeley Institute of Design, EECS Department, UC Berkeley
	Funded by NSF Expeditions in Computer Augmented Program Engineering and the Berkeley Institute of Data Science Postdoctoral Fellowship	
	Supervised by Björn Hartmann, Associate Professor of EECS	
2012-2016	Graduate student	User Interface Design Group, EECS Department, CSAIL, MIT
	PhD Thesis: *Clustering and Visualizing Solution Variation in Massive Programming Classes*	
	Advised by Robert Miller, Distinguished Professor of CS	
2008-2011	Graduate student	Robot Locomotion Group, EECS Department, CSAIL, MIT
	M.Eng. Thesis: *A quadratic regulator-based heuristic for rapidly exploring state space*	
	Advised by Russ Tedrake, Professor of EECS	
2010-2011	Visiting researcher	Biomimetics & Dexterous Manipulation Lab, Stanford University
2006-2008	Undergraduate researcher	Robot Locomotion Group, CSAIL, MIT
2004-2006	Undergraduate researcher	Networks & Mobile Systems, CSAIL, MIT
2003-2004	Invited high school student researcher	Pyschology Dept's EEG Lab, Princeton University

Research Internships

2015	User experience research intern	Search, Google
	Advised by Dan Russell, Senior Research Scientist	
2014	Design research intern	Microsoft Research
	Advised by M.R. Morris, Principal Researcher, and A. Monroy-Hernández, Researcher	

Selected fellowships and scholarships

2018-present	Radcliffe Assistant Professorship at the Radcliffe Institute for Advanced Study
2017-2018	Moore/Sloan Data Science Fellowship at the Berkeley Institute for Data Science (BIDS)
2014-2015	MIT Amar Bose Teaching Fellowship, for developing innovative tools for teaching CS at scale
2011-2014	NSF Graduate Research Fellow (NSF GRFP)
2008-2011	National Defense Science and Engineering Graduate Fellow (NDSEG)
2004	IEEE President's Scholarship ($10,000)
2003	Intel Foundation Young Scientist Award ($50,000)
	Awarded to the top 3 individual projects at the Intel International Science & Engineering Fair

Publications

Journal articles and refereed conference papers

Top-tier ACM conferences in human-computer interaction, i.e., CHI, CSCW, & UIST, are highly selective venues for archival papers only, comparable to many IEEE journals in their selectivity, visibility, and impact. * *indicates equal contribution.*

2019 VL/HCC J Cambronero, J Shen, J Cito, **EL Glassman**, M Rinard
Characterizing developer use of automatically generated patches
IEEE Symposium on Visual Languages and Human-Centric Computing
31-33% acceptance rate

2018 CHI **EL Glassman***, T Zhang*, B Hartmann, and M Kim
Visualizing API Usage Examples at Scale
ACM Conference on Human Factors in Computing Systems
25.8% acceptance rate

2018 CHI **Best of CHI Honorable Mention (top 5%)**
A Head, **EL Glassman**, B Hartmann, and M Hearst
Interactive Extraction of Examples from Existing Code
ACM Conference on Human Factors in Computing Systems
25.8% acceptance rate

2017 L@S A Head, **EL Glassman**, G Soares, R Suzuki, L Figueredo, L D'Antoni and B Hartmann
Writing Reusable Code Feedback at Scale with Mixed-Initiative Program Synthesis
ACM Learning at Scale
13% acceptance rate

2017 VL/HCC R Suzuki, G Soares, A Head, **EL Glassman**, R Reis, M Mongiovi, L D'Antoni, and B Hartmann
TraceDiff: Debugging Unexpected Code Behavior Using Trace Divergences
IEEE Symposium on Visual Languages and Human-Centric Computing
29% acceptance rate

2016 CSCW **EL Glassman**, A Lin, C Cai, R Miller
Learnersourcing Personalized Hints
ACM Computer-Supported Cooperative Work and Social Computing
25% acceptance rate

2016 ASIST **EL Glassman**, D Russell
DocMatrix: Self-Teaching from Multiple Sources
ASIS&T Annual Meeting
40% acceptance rate

2015 UIST **EL Glassman**, L Fischer, J Scott, R Miller
Foobaz: Variable Name Feedback for Student Code at Scale
ACM Symposium on User Interface Software & Technology
23.6% acceptance rate

2015 CHI **Best of CHI Honorable Mention (top 5%)**
EL Glassman, J Kim, A Monroy-Hernández, MR Morris
Mudslide: A Spatially Anchored Census of Student Confusion for Online Lecture Videos
ACM Conference on Human Factors in Computing Systems
23% acceptance rate

2015 CHI J Kim, **EL Glassman**, A Monroy-Hernández, MR Morris
RIMES: Embedding Interactive Multimedia Exercises in Lecture Videos
ACM Conference on Human Factors in Computing Systems
23% acceptance rate

2015 TOCHI **EL Glassman**, J Scott, R Singh, P Guo, RC Miller
OverCode: visualizing variation in student solutions to programming problems at scale
ACM Transactions on Computer-Human Interaction, 22 (2), April 2015.

2013 ICER **EL Glassman**, N Gulley, RC Miller
Toward Facilitating Assistance to Students Attempting Engineering Design Problems
ACM International Computing Education Research
33% acceptance rate

2012 ICRA **EL Glassman**, A Desbiens, M Tobenkin, M Cutkosky, and R Tedrake
Region of attraction estimation for a perching aircraft: A Lyapunov method exploiting barrier certificates
IEEE International Conference on Robotics and Automation
40% acceptance rate

2010 ICRA **EL Glassman** and R Tedrake
A quadratic regulator-based heuristic for rapidly exploring state space
IEEE International Conference on Robotics and Automation

2005 TBME **EL Glassman**
A wavelet-like filter based on neuron action potentials for analysis of human scalp electroencephalographs
IEEE Transactions on Biomedical Engineering 52 (11), 1851-1862, Nov. 2005.

MIT Technology Reports

2015 CSAIL B Kim, **EL Glassman**, B Johnson, J Shah
iBCM: Interactive Bayesian Case Model Empowering Humans via Intuitive Interaction
MIT CSAIL TR-2015-010, April 2015.

Book Chapters

2016 JJ Williams, J Kim, **EL Glassman**, A Rafferty, W Lasecki
"Making Static Lessons Adaptive through Crowdsourcing & Machine Learning"
Design Recommendations for Intelligent Tutoring Systems: Domain Modeling Vol. 4,
US Army Research Laboratory, July 2016.

Posters, demos, and workshop papers

2017 KDD S Tan, F Doshi-Velez, J Quiroz, **EL Glassman**
"Clustering LaTeX Solutions to Machine Learning Assignments for Rapid Assessment"
Machine Learning for Education Workshop
ACM Conference on Knowledge Discovery and Data Mining

2017 CHI R Suzuki, G Soares, **EL Glassman**, A Head, L D'Antoni, and B Hartmann
"Exploring the Design Space of Automatically Synthesized Hints for Introductory Programming Assignments"
ACM Conference on Human Factors in Computing Systems

2017 L@S A Ju, **EL Glassman**, A Fox
"Teamscope: Scalable Team Evaluation via Automated Metric Mining for Communication, Organization, Execution, and Evolution"
ACM Learning at Scale Conference

2016 ICML **EL Glassman**
"Learning Latent Student Design Decisions in Python Programming Classes"
Workshop on Machine Learning for Digital Education and Assessment Systems
International Conference on Machine Learning

2016 NEML **EL Glassman**
"Learning Latent Student Design Decisions in Massive Python Programming Classes"
New England Machine Learning Day

2016 CSCW **EL Glassman** and R Miller
"Leveraging Learners for Teaching Programming and Hardware Design at Scale"
ACM Computer-Supported Cooperative Work and Social Computing

2016 CSCW **EL Glassman**, B Kim, J Shah
"Scaling Up Qualitative Data Analysis With Interfaces Powered by Interpretable Machine Learning"
Human Centered Data Science Workshop
ACM Computer-Supported Cooperative Work and Social Computing

2015 L@S **EL Glassman**, C Terman, R Miller
"Learner-Sourcing in an Engineering Class at Scale"
ACM Learning at Scale Conference

2014 UIST **EL Glassman**
"Interacting with Massive Numbers of Student Solutions"
ACM Symposium on User Interface Software & Technology

2014 L@S **EL Glassman**, R Singh, R Miller
"Feature Engineering for Clustering Student Solutions"
ACM Learning at Scale Conference

2009 NIPS **EL Glassman**
"A quadratic regulator-based heuristic for rapidly exploring state space"
Women in Machine Learning Workshop (WIML)
Neural Information Processing Systems

2006 EMBS **EL Glassman** and J Guttag
"Reducing the number of channels for an ambulatory patient-specific EEG-based epileptic seizure detector by applying recursive feature elimination"
IEEE Engineering in Medicine and Biology Society

Service

Conference program committees

2019 ACM UIST
2017, 2019 ACM CHI, Engineering Interactive Systems and Technologies subcommittee
2017-present ACM Learning at Scale (L@S)
2015 ACM CHI, Works-in-Progress subcommittee

Workshop program committees

2019	NIPS Workshop on Knowledge Representation & Reasoning Meets Machine Learning
2019	AIED Workshop on Intelligent Textbooks
2018, 2019	SPLASH Live Programming Workshop (LIVE), for improving the usability of programming
2017, 2018	SPLASH Workshop on Evaluation and Usability of Programming Languages and Tools (PLATEAU)

Organizing Committees

2020-2021	ACM UIST Publicity Co-Chair
2019	ACM UIST Doctoral Consortium Co-Chair
2017-2018	ACM UIST Registration Chair

Session chairing

2017, 2019	ACM UIST "Code/Education Session" and "Software and Hardware Development"
2015, 2017	ACM CHI "Social Media & Citizen Science" and "All About Data"

Workshops

2019	Workshop on Evaluation and Usability of Programming Languages and Tools (PLATEAU)

Department and Institute committees

2018-2019	Harvard CS Junior Faculty Search Committee member
2018-2019	Harvard Graduate Admissions Committee member
2018	Harvard CS & Joint Degree Programs Committee member
2006-2008	MIT EECS Department Education Committee member
2005	MIT Council on Educational Technology member

Reviewing

Grants

2019	NSF

Journals

2018	Empirical Software Engineering (EMSE)
2017	ACM Transactions on Computer-Human Interaction (TOCHI)

Conferences

2015-present	ACM CHI
	ACM UIST
	ACM CSCW

Teaching

Experience

2019	Co-lecturer, PL/HCI Graduate Seminar (≈ 30 students)	Harvard CS
2019	Co-lecturer, Design of Useful & Usable Interactive Systems (≈ 75 students)	Harvard CS
2016	Co-lecturer, User Interface Design & Implementation (≈ 175 students)	MIT EECS
2013	Instructor, introductory Python programming	MIT MEET, Jerusalem
2013	Video script writer & presenter, radio receiver technology	MIT Teaching & Learning Lab
2012-2014	Teaching assistant, Computation Structures	MIT EECS
2011	Teaching assistant, Introduction to EECS 1	MIT EECS
2006-2011	Tutor, Signals, Systems, & Probabilistic Systems Analysis	MIT EECS Honor Society

Certifications

2011	Graduate Student Teaching Certificate	MIT Teaching & Learning Lab

Seminar Talks

2019	Sumit Gulwani's research group meeting	MSR
2019	Real Colegio Complutense lecture	Harvard
2018	Computer Science Department seminar	UBC
2018	iSchool seminar	UWashington
2018	Computer Science & Engineering Department seminar	UMich
2018	Computer Science & Engineering Department seminar	UCSD
2018	Computer Science Department seminar	UIUC
2018	Computer Science Department seminar	UMaryland
2018	Human-Computer Interaction Institute	CMU
2018	Electrical Engineering & Computer Science Department seminar	UC Berkeley
2018	Computer Science Department seminar	Stanford
2018	Computer Science Department seminar	ETH Zürich
2018	Computer Science Department seminar	Brown
2018	Computing and Information Science Department seminar	Cornell
2018	School of Computer and Communication Sciences seminar	EPFL
2018	Computer Science Department seminar	Harvard
2018	Computer Science Department seminar	Princeton
2018	Computer Science Department seminar	UW-Madison
2018	Computer Science Department seminar	UChicago
2018	Computer Science Department seminar	UToronto
2018	Dan Schwartz and Carl Wieman's lab @ Stanford Graduate School of Education	Stanford
2017	NSF Expeditions in Computer Augmented Program Engineering (ExCAPE) PI Meeting	UPenn
2017	Stanford HCI summer seminar	Stanford
2017	MIT CSAIL Machine Learning Tea	MIT CSAIL
2016	Special Seminar for CS61a Staff, UC Berkeley's largest CS class	UC Berkeley
2016	Berkeley Institute of Design	UC Berkeley
2015	Harvard Berkman Center Cooperation Group	Harvard
2015	Computer Science Department seminar	Duke
2015	HCI summer seminar	Stanford
2015	Lunch seminar	HarvardX
2015	Computer Science Department seminar	Wellesley
2014	DUB Seminar on HCI & Design,	UWashington
2001	Special Seminar	Schlumberger-Doll Research Center

Workshops Presentations

Academic conferences

2017,2019	Approaches and Applications of Inductive Programming	Schloss Dagstuhl
2017	Workshop on Advancing Education with Data	ACM KDD
2017	Diverse Ways of Inferring Missions	DARPA
2017	Augmented Developers: Tools for Hybrid Human-Machine Software Eng.	DARPA

Doctoral Consortiums

2015	"Interacting with massive numbers of student solutions"	ACM UIST
2013	"Visualizing & classifying multiple solutions to engineering design problems"	ACM ICER

Selected honors & awards

2016	Audience Choice Award, MIT Can Talk speech competition
2009	Masterworks Oral Thesis Presentation Award, MIT EECS
2008	Vice President and member, Eta Kappa Nu, EECS Honor Society
2004	Valedictorian & commencement speaker, Central Bucks High School West
2004	National Gallery for America's Young Inventors
2003	Intel International Science and Engineering Fair – Best of Category: Computer Science ($5,000)

Leadership

Hackathons, Student Groups, and Reading Groups

2017	Co-organizer, Text Across Domains (TextXD) Workshop	Berkeley Institute of Data Science
2017	Co-organizer, Program Synthesis Hackathon	UC Berkeley
2013-2015	President, Middle East Education through Technology	MIT
2012	Co-organizer, edTech reading group	MIT

Selected Outreach

2019	Panelist, MIT GW6 (Graduate Women in EECS) Research Summit conference
2018	Panelist, Rising Stars workshop for aspiring female EECS professors
2018	Guest lecturer, Google software engineering course of underrepresented college students
2016	Panelist, MIT EECS SuperUROP (Undergraduate Research) Seminar
2016	Virtual guest speaker, Bucknell HCI course
2015	Invited speaker, GirlTechPower summer camp for girls
2015	Panelist, Women Techmaker's Summit at Google Cambridge
2014, 2015	Invited speaker, MIT CSAIL Hour of Code event for local schools
2013	Mentor, Harvard Women in CS "Women Engineers Code Hackathon"
2008, 2011	Invited speaker, MIT Women's Technology Program
2008	Invited speaker, MIT CSAIL Campus Preview Weekend

Selected press

2015	MIT News Homepage Spotlight, "Reviewing online homework at scale," research profile
2015	MIT News, "It takes a network," quoted
2015	Reddit's Upvoted podcast, guest
2004	New York Times, "Not Too Young for a Patent," personal profile
2003	CNN, Lou Dobbs Tonight, "America's Bright Future," personal profile
2003	CNN, American Morning, guest
2003	*Science* "Rising Stars" Vol. 300. Issue 5624, p. 1368, personal profile

Athletic Achievements

2010,2012	US Olympic Wrestling Training Camp participant	Colorado Springs, CO
2009-2012	Competitor, regional & national women's tournaments	US & Canada

2010	All-American Wrestler, National Collegiate Wrestling Association	Hampton, VA
2008	Team Member, NCAA Div. III Varsity Wrestling Team	MIT

References

Robert Miller
Distinguished Professor of Computer Science
MIT CSAIL

Björn Hartmann
Associate Professor of Electrical Engineering & Computer Science
University of California, Berkeley

Dan Russell
Senior Research Scientist
Google

Scott Klemmer
Professor of Cognitive Science and Computer Science & Engineering
University of California, San Diego

Miryung Kim
Associate Professor of Computer Science
University of California, Los Angeles