Elena Leah Glassman

Assistant Professor of Computer Science at Harvard University
Stanley A. Marks & William H. Marks Professor at the Radcliffe Institute for Advanced Study

Office Maxwell Dworkin Laboratory, Rm 241, Cambridge, MA 02138
Email glassman@seas.harvard.edu *Lab* glassmanlab.seas.harvard.edu

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.*

TBD
S Chasins, **EL Glassman**, J Sunshine.
PL and HCI: Better Together
Communications of the ACM

2021 CHI
A Ross, N Chen, E Zhao Hang, **EL Glassman**, F Doshi-Velez
Evaluating the Interpretability of Generative Models by Interactive Reconstruction
ACM Conference on Human Factors in Computing Systems
23-25% acceptance rate

2021 CHI
T Zhang, Z Chen, Y Zhu, P Vaithilingam, X Wang, **EL Glassman**
Interpretable Program Synthesis
ACM Conference on Human Factors in Computing Systems
23-25% acceptance rate

2021 CHI
L Yan, **EL Glassman**, T Zhang
Visualizing Examples of Deep Neural Networks at Scale
ACM Conference on Human Factors in Computing Systems
23-25% acceptance rate

2020 FSE
C Barnaby, K Sen, T Zhang, **EL Glassman**, and S Chandra
Exempla Gratis (E.G.): Code Examples for Free
Industry Track of *ACM Joint European Software Engineering Conference & Symposium on the Foundations of Software Engineering*

2020 UIST
T Zhang, L Lowmanstone, X Wang, **EL Glassman**
Interactive Program Synthesis by Augmented Examples
ACM Symposium on User Interface Software & Technology

2020 CHI
T Zhang, B Hartmann, M Kim, **EL Glassman**
Enabling Data-Driven API Design with Community Usage Data: A Need-Finding Study
ACM Conference on Human Factors in Computing Systems

2020 IUI
Best Paper Award
Z Bucinca*, P Lin*, K Gajos, **EL Glassman**
Proxy Tasks and Subjective Measures Can Be Misleading in Evaluating XAI Systems
ACM Intelligent User Interfaces

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

2020 C+J **EL Glassman**, Janet Sung, Katherine Qian, Yuri Vishnevsky, Amy Zhang
"Triangulating the News: Visualizing Commonality and Variation Across Many News Stories on the Same Event"
Computation + Journalism Symposium

2019 PLATEAU Rebecca Hao and **EL Glassman**
"Approaching polyglot programming: what can we learn from bilingualism studies?"
Workshop on Evaluation and Usability of Programming Languages and Tools
Co-located with ACM User Interface Software and Technology

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

Fundraising

NSF

2020-24 Lead PI, Collaborative Research: CHS: Medium: Code demography: Addressing information needs at scale for programming interface users and designers
2020-23 Co-PI, RI: Small: Human Validation in Batch Reinforcement Learning
2019-21 PI, WORKSHOP: Student Innovation Challenge at User Interface Software and Technology 2019

Industry

2019 Facebook

Service

Founding Co-Organizer

2020 PL+HCI Summer School
2020 CambridgeCHI, a regional virtual symposium of accepted CHI talks

2017	Program Synthesis Hackathon at UC Berkeley	
2012	MIT edTech reading group	

External Advisory Boards

2021	Semantic Scholar, Allen Institute for Artificial Intelligence	

Conference program committees

2021	ACM DIS	
2020, 2021	ACM CSCW	
2019, 2021	ACM UIST	
2017, '19-'21	ACM CHI Engineering Interactive Systems and Technologies subcommittee	
2017-2019	ACM Learning at Scale (L@S)	
2015	ACM CHI Works-in-Progress subcommittee	

Workshop program committees

2020	Human Aspects of Types and Reasoning Assistants	SPLASH
2019,2020	Workshop on Knowledge Representation & Reasoning Meets Machine Learning	NIPS
2019, 2020	Workshop on Intelligent Textbooks	AIED
2018, 2019	Live Programming Workshop (LIVE), for improving the usability of programming	SPLASH
2017, 2018	Workshop on Evaluation and Usability of Programming Languages and Tools	SPLASH

Organizing Committees

2020	ACM UIST Publicity Co-Chair	
2019	ACM UIST Doctoral Consortium Co-Chair	
2017-2018	ACM UIST Registration Chair	
2013-2015	Middle East Education through Technology (President of MIT Student Group)	

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

2020	LIVE (improving programming via liveness) Steering Committee	SPLASH
2019, 2020	Workshop on Evaluation and Usability of Programming Languages and Tools	UIST, SPLASH
2017	Text Across Domains (TextXD) Workshop	Berkeley Institute of Data Science

Institute and University committees

2020	Enrollment Working Group member, planning for Harvard's reopening	Harvard
2005	Council on Educational Technology member	MIT

Department and School committees

2020-2021	Committee on Higher Degrees (CHD)	CS, Harvard
2018-2019	PhD Diversity Admissions Committee member	SEAS, Harvard
2018-2019	Junior Faculty Search Committee member	CS, Harvard
2018-2019	Graduate Admissions Committee member	SEAS, Harvard

2018	Joint Degree Programs Committee member	CS, Harvard
2006-2008	Education Committee member	EECS, MIT

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

Mentoring and Advising

Postdoctoral Scholars

2019-present	Tianyi Zhang	Harvard CS
2019-2020	Berk Ustun	Harvard CRCS

Doctoral Students

2020-present	Tyler Holloway	Harvard CS
2020-present	Priyan Vaithilingam	Harvard CS

PhD Thesis Committees

2021	Felix Gonda	Harvard CS
2021	Andrew Ross	Harvard CS
2020	Minsuk Chang	KAIST CS
2020	Hendrik Heuer	University of Bremen CS

Quals Committees

2021	Jamelle Watson-Daniels	Harvard CS
2020	Andrew Ross	Harvard CS
2019	Sophie Hilgard	Harvard CS
2019	Hsiang Hsu	Harvard CS
2019	Juntao Wang	Harvard CS
2019	Eric Lu	Harvard CS

Masters Theses

2021	Litao Yan	Computational Science & Engineering
2019	Janet Sung	Design Engineering

Senior Theses

2020	Katherine Qian	Harvard CS
2020	Jake Cui	Harvard CS & Linguistics
2020	Rebecca Hao	Harvard CS & Linguistics
2019	Sam Oh	Harvard CS & Philosophy

Summer Researchers

2019,2020	Cole Bateman	Harvard CS
2019	Phoebe Lin	Harvard Graduate School of Design
2019	Jamie Lee	High School Student

Academic Advising

2019-present First year advisor to 3 to 4 freshman women with interest in CS

Enrichment

2013 Mentor, Harvard Women in CS "Women Engineers Code Hackathon"

Teaching

Experience

2021	Lecturer, CS179 Design of Useful & Usable Interactive Systems (≈ 115 students)	Harvard CS
2020	Lecturer, CS279r Research Topics in HCI: Human-AI Interaction (≈ 35 students)	Harvard CS
2020	Lecturer, CS179 Design of Useful & Usable Interactive Systems (≈ 75 students)	Harvard CS
2019	Co-lecturer, CS279r PL/HCI Graduate Seminar (≈ 30 students)	Harvard CS
2019	Co-lecturer, CS179 Design of Useful & Usable Interactive Systems (≈ 75 students)	Harvard CS
2016	Co-lecturer, 6.831 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, 6.004 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

Teaching Courses and Certifications

2020	Course Planning Workshop	Harvard OUE and Bok Center
2011	Graduate Student Teaching Certificate	MIT Teaching & Learning Lab

Invited Keynote Talks

2020 ACM SIGPLAN conference on Systems, Programming, Languages, and Applications: Software for Humanity

Invited Panelist

2020	Academic Job Search Seminar	MIT EECS
2020	Path to the Professorship	MIT
2020	Celebrating IUI's 25th anniversary, *canceled due to COVID-19*	ACM IUI
2019	MIT GW6 (Graduate Women in EECS) Research Summit conference	MIT EECS
2018	Rising Stars workshop for aspiring female EECS professors	MIT EECS
2016	SuperUROP (Undergraduate Research) Seminar	MIT EECS
2015	Women Techmaker's Summit	Google Cambridge

Invited Seminar Talks

2021	CS Department Seminar *TBD*	Wesleyan
2021	BostonCHI	Cambridge, MA
2020	Workshop on Computer-Assisted Programming	NeurIPS
2020	PurPL Seminar Series	Purdue
2019	Josh Tenenbaum's research group meeting	MIT

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
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

2020	SE4ML - Software Engineering for AI-ML-based Systems	Schloss Dagstuhl
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

Selected Outreach

2020	Panelist, Branson High School
2020	Keynote speaker, Harvard WECode's inaugural 2020 High School Conference
2020	Creator, Podcast "Design of Useful and Usable Interactive Systems"
2018	Invited lecturer, Google software engineering course of underrepresented college students
2016	Invited speaker, Bucknell HCI course
2015	Invited speaker, GirlTechPower summer camp for girls
2014, 2015	Invited speaker, MIT CSAIL Hour of Code event for local schools
2008, 2011	Invited speaker, MIT Women's Technology Program
2008	Invited speaker, MIT CSAIL Campus Preview Weekend

Selected press

2020	*Scenes from the socially distant*, teaching profile	The Harvard Gazette
2020	*Bringing additional expertise to class via remote instruction*, teaching profile	Harvard SEAS
2015	*Reviewing online homework at scale*, research profile	MIT News Homepage Spotlight
2015	*It takes a network*, quoted	MIT News
2015	Guest on Upvoted podcast	Reddit
2004	*Not Too Young for a Patent*, profile	New York Times
2003	*America's Bright Future* on Lou Dobbs Tonight, profile	CNN
2003	Guest on American Morning	CNN
2003	*Rising Stars* Vol. 300. Issue 5624, p. 1368, profile	*Science*

Athletics Program Involvement

2020-present	Faculty sponsor of the Harvard Women's Wrestling Club	Harvard
2019-present	Active participant in the Harvard Running community, e.g., Harvard on the Move	Harvard
2010,2012	US Olympic Wrestling Training Camp participant	Colorado Springs, CO
2009-2012	Competitor, regional & national women's wrestling 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
Professor of Computer Science
University of California, Los Angeles

Last updated: February 23, 2021 • Typeset in XeTeX
http://glassmanlab.seas.harvard.edu/Academic_CV.pdf