July 7, 2022

KRISTIN STEPHENS-MARTINEZ

Duke University
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EDUCATION

Doctor of Philosophy, Computer Science (Advisor: Armando Fox)
University of California, Berkeley — December 2017
Thesis: *Serving CS Formative Feedback on Assessments Using Simple and Practical Teacher-Bootstrapped Error Models*

Master of Science, Computer Science (Advisor: Vern Paxson)
University of California, Berkeley — December 2013
Report: *Towards Sound HTTP Request Causation Inference*

Bachelor of Science, Computer Science
University of Maryland, College Park — May 2009
Summa Cum Laude

PROFESSIONAL APPOINTMENTS

Associate Director of Undergraduate Studies (Duke University) — Sept 2021 - Now

Assistant Professor of the Practice (Duke University) — Dec 2017 - Now

Co-Instructor
CS194-25 with Dawn Song (University of California, Berkeley) — Fall 2012

Head/Graduate/Undergraduate Teaching Assistant
See Teaching section for details

Graduate Student Researcher
Wrong answers and Hints with Armando Fox (University of California, Berkeley) — May - Aug 2016, Jan - May 2017
KnowMap with Dawn Song (University of California, Berkeley) — May - Dec 2012
Work with Vern Paxson (University of California, Berkeley)
- *BGP Parser* — Jan - Aug 2011
- *HTTP Request Causation* — Jan - May 2012

Hoodnets with Bobby Bhattacharjee (University of Maryland, College Park) — Aug 2009 - May 2010

Undergraduate Student Researcher
FindBugs with Bill Pugh (University of Maryland, College Park) — May - Aug 2006, Jan - May 2007

Software Engineer Intern
Coursera, *Quiz Statistics Visualization* (Mountain View, CA) — May - Aug 2014
Stanford edX, *Instructor Dashboard* (Stanford, CA) — May - Aug 2013
Google, *Google Doc Team* (New York, NY) — Jun - Aug 2010
Google, *Internationalization Team* (Mountain View, CA) — Jun - Aug 2009
Microsoft, *Excel Developer Team* (Redmond, WA) — May - Aug 2008
Oil Price Information Services (OPIS), *Developer Team* (Rockville, MD) — May - Aug 2008

HONORS AND AWARDS

University of California, Berkeley

Outstanding Graduate Student Instructor 2012-2013
National Science Foundation Graduate Research Fellowship 2010
University of California, Berkeley Chancellor's Fellowship 2010

University of Maryland, College Park

Outstanding Undergraduate for The College of Computational, Mathematical, and Physical Sciences 2009
CS Teaching Excellence Award for an Undergraduate Teaching Assistant 2009

PUBLICATIONS

Conferences

Anshul Shah, Jonathan Liu, **Kristin Stephens-Martinez**, and Susan H. Rodger. 2021. *The CS1 Reviewer App: Choose Your Own Adventure or Choose for Me!.* In Proceedings of the 26th ACM Conference on Innovation and Technology in Computer Science Education. (pp 331-337) ITiCSE '21. (30.5% acceptance)

Kristin Stephens-Martinez. 2021. *A Study of the Relationship Between a CS1 Student's Gender and Performance Versus Gauging Understanding and Study Tactics.* In Proceedings of the 52nd ACM Technical Symposium on Computer Science Education. (pp 679-685) SIGCSE '21. (31% acceptance)

Kristin Stephens-Martinez and Armando Fox. 2018. *Giving Hints is Complicated: Understanding the Challenges of an Automated Hint System Based on Frequent Wrong Answers.* ACM Conference on Innovation and Technology in Computer Science Education. (pp. 45-50) ITiCSE '18.

Kristin Stephens-Martinez, An Ju, Krishna Parashar, Regina Ongowarsito, Nikunj Jain, Sreesha Venkat, Armando Fox. 2017. *Taking Advantage of Scale by Analyzing Frequent Constructed-Response, Code Tracing Wrong Answers.* ACM International Computing Education Research. (pp. 56-64) ICER '17.

Kristin Stephens-Martinez, Marti A. Hearst, and Armando Fox. 2014. *Monitoring MOOCs: Which information sources do instructors value?.* ACM Learning At Scale. (pp. 79-88) ACM L@S '14.

Posters

Amogh Mannekote, Mehmet Celepkolu, Aisha Chung Galdo, Kristy Elizabeth Boyer, Maya Israel, Sarah Heckman, **Kristin Stephens-Martinez**. 2022. *Don't Just Paste Your Stacktrace: Shaping Discussion Forums in Introductory CS Courses.* Extended Abstract at ACM SIGCSE Technical Symposium on Computer Science Education. In press. SIGCSE '22. (64% acceptance)

Kristin Stephens-Martinez, An Ju, Colin Schoen, John DeNero, Armando Fox. 2016. *Identifying Student Misunderstandings using Constructed Responses.* Extended Abstract at ACM Learning At Scale. (pp. 153-156) L@S '16.

Kristin Stephens, Shaddi Hasan, and Yahel Ben-David. 2012. *MultiWAN: WAN Aggregation for Developing Regions.* ACM Symposium on Computing for Development. DEV '12.

Brian Cole, Dan Hakim, Dave Hovemeyer, Reuven Lazarus, William Pugh, and **Kristin Stephens**. 2006. *Improving your software using static analysis to find bugs.* In Companion to the 21st ACM SIGPLAN Symposium on Object-Oriented Programming Systems, Languages, and Applications. OOPSLA '06.

Articles

Kristin Stephens-Martinez. 2021. *The CS-Ed Podcast Season 2.* ACM SIGCSE Bulletin, Vol. 53, No. 1, page 6, January 2021.

Kristin Stephens-Martinez. 2020. *The CS-Ed Podcast.* ACM SIGCSE Bulletin, Vol. 52, No. 1, page 12, January 2020.

Panels

Dan Garcia , Zelda Allison, Abigail Joseph, David Malan, **Kristin Stephens-Martinez**. 2022. *Technology We Can't Live Without! (COVID-19 edition).* SIGCSE Technical Symposium on Computer Science Education. In press. SIGCSE '22. (58% acceptance)

Kristin Stephens-Martinez, Manuel A. Pérez-Quiñones, Nicki Washington, and Leigh Ann DeLyser. 2021. *Where Should We Go From Here? Eliminating Inequities In CS Education, Featuring Guests From The CS-Ed Podcast.* SIGCSE Technical Symposium on Computer Science Education. SIGCSE '21. (56% acceptance)

Demos

Yihao Hu, Zhengjie Miao, Zhiming Leong, Haechan Lim, Zachary Zheng, Sudeepa Roy, **Kristin Stephens-Martinez**, and Jun Yang. 2022. *I-Rex: An Interactive Relational Query Debugger for SQL.* Abstract at ACM SIGCSE Technical Symposium on Computer Science Education. In press. SIGCSE '22. (48% acceptance)

Birds of a Feathers

Kevin Lin, Brian Railing, and **Kristin Stephens-Martinez**. 2021. *How can we make office hours better?.* SIGCSE Technical Symposium on Computer Science Education. SIGCSE '21. (88% acceptance)

Kristin Stephens-Martinez and Brian Railing. 2019. *How can we make office hours better?* SIGCSE Technical Symposium on Computer Science Education. Feb 28, 2019. SIGCSE '19.

Artifacts

Kristin Stephens-Martinez. 2021. *The CS-Ed Podcast.* Season 3. Duke University. A podcast where I talk about teaching computer science with computer science educators. Theme: "What's Next?" Episodes are 30-45 minute long. 671 listens across 3 episodes as of 7/1/22 from Spotify, Apple Podcasts, and Google Podcasts. `https://csedpodcast.org/`

Kristin Stephens-Martinez. 2021. *The CS-Ed Podcast.* Season 2. Duke University. A podcast where I talk about teaching computer science with computer science educators. Theme: "Where should we go from here?" 6 episode series of 30-45 minute episodes. 1,243 listens across 6 episodes as of 7/1/22 from Spotify, Apple Podcasts, and Google Podcasts. `https://csedpodcast.org/`

Kristin Stephens-Martinez. 2019-2020. *The CS-Ed Podcast.* Season 1. Duke University. A podcast where I talk about teaching computer science with computer science educators. 6 episode series of 30-45 minute episodes. 2 released in 2019 and 4 released in 2020. 2,141 listens as of 7/1/22 from Spotify, Apple Podcasts, and Google Podcasts. `https://csedpodcast.org/`

Kristin Stephens-Martinez. 2018. *Learning Innovation Blog: "Planning a Course Calendar".* `https://learninginnovation.duke.edu/blog/2018/08/planning-a-course-calendar/`

Blog
`https://ksm-cs.blogspot.com/` OR `https://ksm-csed.medium.com/`

Year Posted	# Posts	Total Views*	Topics
2019	9	3,570	Conference reflection, grant writing reflection, how I stay organized, and teaching
2020	8	2,113	My webinar "How to Create and Use Formative Assessments at Scale", conference reflection, how I organize the teaching staff of my 200+ student class, getting organized
2021	8	564	Semester theme, conference reflections, teaching reflections, teaching techniques, ITiCSE paper, other podcasts
2022	5	220	Grad school application advice, teaching reflection, reflections as hybrid chair for a conference

* For all posts from that year for all time as of 7/1/22.

TEACHING

Duke University

Date		Number	Title	Enrolled	TAs/UTAs
2022	Spring	Compsci 216	Everything Data	208	2.5/10
2022	Spring	Compsci 290	Computing Education Research	14	0
2021	Fall	Compsci 116	Foundations of Data Science	38	1/2
2021	Fall	Compsci 216	Everything Data	198	2/10
2021	Spring	Compsci 201	Data Structures and Algorithms	276	2/31
		(Co-taught with Brandon Fain)			
2021	Spring	Compsci 216	Everything Data	217	2/9
		(Co-taught with Brandon Fain)			
2020	Spring	Compsci 249	Compsci Ed Research	10	0
		(Co-taught with Susan Rodger)			
2020	Spring	Compsci 101	Introduction to Computer Science	170	2/20
2019	Fall	Compsci 249	Compsci Ed Research	10	0
		(Co-taught with Susan Rodger and Robert Duvall)			
2019	Fall	Compsci 116	Foundations of Data Science	32	1/3
2019	Fall	Compsci 101	Introduction to Computer Science	254	2/30
2019	Spring	Compsci 101 Sec1	Introduction to Computer Science	130	2/28
	Spring	Compsci 101 Sec2	Introduction to Computer Science	94	-
2018	Fall	Compsci 101 Sec1	Introduction to Computer Science	182	2/34
	Fall	Compsci 101 Sec2	Introduction to Computer Science	109	-
2018	Spring	Compsci 101 Sec2	Introduction to Computer Science	104	2/29
		(Co-taught with Owen Astrachan (Sec 1))			

Notes:
Fall 2020: Parental leave
TA - Graduate Teaching Assistant, UTA - Undergraduate Teaching Assistant

University of California, Berkeley (Co-Instructor)

Date		Number	Title	Enrolled	UTAs
2012	Fall	CS194-25	Special Topics: Build Your Next Gen Education Technology	13	0
		(Co-taught with Dawn Song)			

University of California, Berkeley (Graduate Teaching Assistant)

Date		Number	Title
2016	Fall	CS169	Software Engineering (Armando Fox, Head Grad TA of 5 Undergrad TAs)
	Spring	CS61A	The Structure and Interpretation of Computer Programs (Paul Hilfinger)
2015	Fall	CS61A	The Structure and Interpretation of Computer Programs (John DeNero)
2011	Fall	EE122	Introduction to Communication Networks (Scott Shenker)

University of Maryland, College Park (Graduate Teaching Assistant)

Date		Number	Title
2009	Fall	CMSC198K	The Science Behind Computing (Bobby Bhattacharjee & Samir Khuller)

University of Maryland, College Park (Undergraduate Teaching Assistant)

Date		Number	Title
2008	Spring	CMSC131	Object Oriented Programming I (Jan Plane)
2007	Fall	CMSC106	Intro to C Programming (Jan Plane)

Course and Curriculum Development

Robert Duvall, Susan Rodger, and **Kristin Stephens-Martinez** (alphabetical order). *Curriculum for Undergraduate Teaching Assistant Training.* 2019. Compsci249. Duke University.

Ji Yeon Kim, Yesenia Velasco, and **Kristin Stephens-Martinez**. *Auto-grader Unittests for Compsci101 Assignments.* 2018. Compsci101. Duke University.

Kristin Stephens-Martinez. *Curriculum for "Build Your Next Gen Education Technology.* 2012. CS194-25. University of California, Berkeley.

GRANTS

REU Supplement to "CUE: Collaborative Research: Effective Peer Teaching Across Computing Pathways," #1934965, National Science Foundation: Improving Undergraduate STEM Education: Computing in Undergraduate Education (IUSE: CUE), $5,000, Summer 2021.

REU Supplement to "CUE: Collaborative Research: Effective Peer Teaching Across Computing Pathways," #1934965, National Science Foundation: Improving Undergraduate STEM Education: Computing in Undergraduate Education (IUSE: CUE), $10,000, Summer 2020.

"III: Small:HNRQ: Helping Novices Learn and Debug Relational Queries," #2008107, National Science Foundation: IIS, $500,000, October 2020 - September 2023 (with Jun Yang and Sudeepa Roy).

"CUE: Collaborative Research: Effective Peer Teaching Across Computing Pathways," #1934965, National Science Foundation: Improving Undergraduate STEM Education: Computing in Undergraduate Education (IUSE: CUE), $300,000, January 2020 - June 2022 (with Sarah Heckman, Lina Battestilli, Anna Howard, Kristy Boyer, Maya Israel, Ketan Mayer-Patel, David Gotz, and Karen Murphy). **Stephens-Martinez part $76,055**.

"The CS-Ed Podcast," SIGCSE Special Projects Grants, $5,000, Year of 2019. (acceptance rate 15%)

STUDENTS

Duke University

Master's

1. Ji Yeon Kim - "Student Paths in CS1: Case Studies of Initial Poor Performers" Aug 2018 - May 2019

Post Bachelor's

1. Jonathan Liu, "CS101 Reviewer App" Fall 2020, Spring 2021

Undergrad

1. Bianca Saputra, "What CS1 Formative Assessments Tell Us" (Thesis) Fall 2021, Spring 2022
2. Brian Janger, "CS101 Reviewer App" (CS+ Program) Summer 2021
3. Manith Luthria, "CS101 Reviewer App" (CS+ Program) Summer 2021
4. Belle Xu
   - "CS101 Reviewer App" (Independent Study) Spring 2022
   - "CS101 Reviewer App" (CS+ Program) Summer 2021

5. Sona Suryadevara
    - "Analyzing Office Hours Through the Lens of Gender and the Problem-Solving Process" (Thesis) Fall 2021, Spring 2022
    - "CS101 Reviewer App" (CS+ Program) Summer 2021
6. Eric Young
    - Duke Innovation & Entrepreneurship Certificate Program Summer 2021
    - "WWPD: What Will Python Do?" (CS+ Program) Summer 2020
7. Andrew Elcock, "CS101 Reviewer App" (Independent Study) Spring 2021
8. Anshul Shah, "CS101 Reviewer App" (Independent Study) Spring 2020, Fall 2020, Spring 2021
9. Benjamin Stewart, "WWPD: What Will Python Do?" (CS+ Program) Summer 2020
10. Frank Tang, "WWPD: What Will Python Do?" (CS+ Program) Summer 2020
11. Jaylyn Barbee, "Breadcrumbs: Analyzing Classroom Data" (CS+ Program) Summer 2019
12. Lucian Li, "Breadcrumbs: Analyzing Classroom Data" (CS+ Program) Summer 2019
13. Man-Lin Hsiao, "Breadcrumbs: Analyzing Classroom Data" Summer 2018
14. Liam Pulsifer, "Breadcrumbs: Analyzing Classroom Data" Summer 2018

PhD, Preliminary Exam Committee Member

1. Zhengjie Miao (advisor: Sudeepa Roy) Spring 2020

PhD, Research Initial Project Committee Member

1. Yihao Hu (advisor: Jun Yang) Spring 2021
2. Zhengjie Miao (advisor: Sudeepa Roy) Spring 2018

Master's Committee Member

1. Tiangang Chen (advisor: Jun Yang) Spring 2020
2. Yuxi Yang (advisor: Mary Cummings) Fall 2019

University of California, Berkeley (All Undergrad)

1. Anwar Baroudi, "Do students like and remember hints?" Spring 2018
2. Maia Rosengarten, "Do students like and remember hints?" Spring 2018
3. Kavi Gupta, "Delivering Hints to Students Based on Wrong Answers" Spring 2018
4. Nikunj Jain Fall 2016 - Summer 2017
    - "Quantitative Analysis of Code-Tracing Wrong Answers"
    - "Delivering Hints to Students Based on Wrong Answers"
5. Sreesha Venkat Fall 2016, Spring 2017
    - "Qualitative Analysis of Code-Tracing Wrong Answers"
    - "Delivering Hints to Students Based on Wrong Answers"
6. Regina Ongowarsito Summer 2016 - Spring 2017
    - "Qualitative Analysis of Code-Tracing Wrong Answers"
    - "Delivering Hints to Students Based on Wrong Answers"
7. Krishna Parashar Summer 2016 - Spring 2017
    - "Qualitative Analysis of Code-Tracing Wrong Answers"
    - "Delivering Hints to Students Based on Wrong Answers"
8. Steven Chi, "Predicting Struggling Students from Student Answers" Spring 2016, Summer 2016
9. Spenser Chiang, "OK.py Feature: Hints" Spring 2016
10. Hayden Sheung, "OK.py Feature: Hints" Spring 2016
11. Kelly Liu, "Qualitative Analysis of Code-Tracing Wrong Answers" Spring 2016
12. Hannah Huang, "Qualitative Analysis of Code-Tracing Wrong Answers" Fall 2015, Spring 2016
13. Michelle Tian, "Qualitative Analysis of Code-Tracing Wrong Answers" Fall 2015

ACADEMIC SERVICE

Duke University

- Computer Science Dept. DUS Assistant Hiring Committee — Jan 2022 - May 2022
- Computer Science Dept. Undergraduate Coordinator Hiring Committee — Jan 2022 - May 2022
- Computer Science Dept. Space Committee — July 2020 - May 2021
- Computer Science Dept. Faculty Search Committee PoP — Aug 2019 - May 2020
- Computer Science Dept. Communications Committee — Dec 2018 - May 2020
- Computer Science Advisor — Aug 2018 - Present
  - 2020-2021 year: 38 students
  - 2019-2020 year: 31 students
  - 2018-2019 year: 27 students
- College Advisor — Aug 2018 - Present
  - 2020-2021 year: 7 students
  - 2019-2020 year: 6 students
  - 2018-2019 year: 3 students

Conference

SIGCSE Technical Symposium Hybrid Experience Chair — 2022, 2023
SIGCSE Technical Symposium Reviewer — 2019, 2020, 2021, 2022
ICER Code of Conduct Facilitator — 2021
ICER Reviewer — 2021
Learning@Scale Reviewer — 2017, 2020

Grant Proposal Reviewer

National Science Foundation Panelist for CISE — 2018, 2021

External

Online Social Gathering Coordinator for CS Teacher Group — April 2021 - Now
CRA-WP Table Mentor for Teaching Track Faculty Workshop — March 2021

University of California, Berkeley

- EECS Peers
  - Member — Aug 2015 - May 2017
  - CS-Coordinator and Founder — Aug 2013 - May 2015
- Graduate and Undergraduate Mentoring — Jan 2010 - May 2017
  - 10 graduate and 13 undergraduate students
- Teaching Conference for First-Time GSIs, Session Facilitator — Jan 13, 2017
- Admissions Committee, Education Area Reader — 2016, 2017
- Admissions Committee, Diversity Reader — 2013, 2014
- Women In Computer Science and Electrical engineering (WICSE), Co-President — Aug 2012 - May 2013

University of Maryland, College Park

- Association for Women in Computing (AWC)
  - Co-Chair — Aug 2008 - May 2009
  - Treasurer — Aug 2007 - May 2008
- CS Ambassador — Aug 2008 - May 2009
- PRIME Scholar — Aug 2006 - Dec 2007

TALKS

- "Using Data Science in CS Education & What is a Teaching Professor?," University of Illinois Computer Science, Online, March 29, 2022.
- "Teaching Data Science in a Flipped Classroom by Using Data Science," Berkeley EECS, Online, March 9, 2022.
- "A Scaled Class is a Rich Class: How to approach large class data sets to drive class improvements," CS Colloquium Series, Northwestern McCormick School of Engineering, Online, May 26, 2021.
- "A Study of the Relationship Between a CS1 Student's Gender and Performance Versus Gauging Understanding and Study Tactics," ACM Technical Symposium on Computer Science Education (SIGCSE), Online, Mar 18, 2021.
- "Learning at Scale with Kristin Stephens-Martinez," #CSK8 Podcast with Jared O'Leary, Internet, Sept 28, 2020, `https://jaredoleary.com/csk8feed/51`
- "How to Create and Use Formative Assessments at Scale," Codio Webinar, Internet, Jul 14, 2020. `https://www.codio.com/webinar-how-to-create-and-use-formative-assessments-at-scale`
- "Insights from Having Students Predict their Exam Grades," Behavioral Research Informing Teaching Excellence (BRITE), Duke University, Durham, NC, Mar 4, 2020.
- "It's a Marathon, Not a Sprint: Balancing Work and Life in Grad School and Beyond," with James Mickens by CRA-WP, Grace Hopper Celebration, Orlando, FL, Oct 2, 2019.
- "Giving Hints is Complicated: Understanding the Challenges of an Automated Hint System Based on Frequent Wrong Answers," Project Search Pre-Orientation undergraduate program, Duke University, Durham, NC, Aug 7, 2019.
- "How Can Data from Large Classrooms Improve Learning?," Behavioral Research Informing Teaching Excellence (BRITE), Duke University, Durham, NC, Dec 4, 2018.
- "Teaching as a Career," Compsci 701: Introduction to Graduate Study, Duke University, Durham, NC, Nov 9, 2018.
- "Giving Hints is Complicated: Understanding the Challenges of an Automated Hint System Based on Frequent Wrong Answers," Project Search Pre-Orientation undergraduate program, Duke University, Durham, NC, Aug 13, 2018.
- "Giving Hints is Complicated: Understanding the Challenges of an Automated Hint System Based on Frequent Wrong Answers," ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE), Larnaca, Cyprus, Jul 2, 2018.
- "Taking Advantage of Scale by Analyzing Frequent Constructed-Response, Code Tracing Wrong Answers," ACM International Computing Education Research (ICER), Tacoma, WA, USA, Aug 18, 2017.
- "Monitoring MOOCs: Which information sources do instructors value?" ACM Learning At Scale (L@S), Atlanta, GA, USA, Mar 4, 2014.

PANELS

- "Technology We Can't Live Without! (COVID-19 edition)." SIGCSE, Providence, RI, March 4, 2022.
- "Where Should We Go From Here? Eliminating Inequities In CS Education, Featuring Guests From The CS-Ed Podcast." (Moderator) SIGCSE, Online, March 16, 2021.
- "CS Instruction Post-Quarantine," Emerging Trends in Computer Science, Online, June 28, 2021.
- "David M. Rubenstein Scholars Spotlight Series," Duke University, July 3, 2019.

ADDITIONAL BROADENING PARTICIPATION IN COMPUTING

- Undergraduate Teaching Assistant (UTA) Diversity Initiative — Fall 2020
- Computer Science Education Research Reading Group — Summer 2020
- Mentor female Ph.D. student from University of Florida — 2020-2021
- Events Attended
  - Grace Hopper — 2009, 2012, 2018, 2019, 2020, 2021
  - Tapia — 2014
  - Duke CS Discussion Panel on "Picture a Scientist" Movie — November 2020
- Faculty Lunches (flunch) with students
  - 2018: 8
  - 2019: 7
  - 2020: 4 (Covid-19, parental leave)
  - 2021: 1 (Covid-19)
  - 2022: 3

MEMBERSHIPS

Special Interest Group on Computer Science Education (SIGCSE) — 2018 - Present
Association for Computing Machinery (ACM) — 2008 - Present