

# Shaon Barman

## Curriculum Vitae

Oakland, CA  
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### Education

- 2009  
2015  
**Ph.D. in Computer Science**, *University of California, Berkeley*, GPA: 3.85.  
Emphasis in Programming Languages
- 2005  
2009  
**B.S. in Computer Science**, *University of Texas at Austin*, GPA: 3.98.  
Turing Scholars (CS Honors Program) and Dean Scholars Programs

### PhD thesis

- Title *End-User Record and Replay for the Web*
- Advisor Ras Bodik
- Description This thesis explores the design of a record and replay system for webpages. Our system uses novel language features to faithfully replay a user's interactions. We also explore how record and replay can be used as a building block toward more expressive end-user applications.

### Publications

#### Conference Proceedings

- 2016  
Barman, Shaon, Sarah Chasins, Rastislav Bodik, and Sumit Gulwani. "Ringer: Web Automation by Demonstration". In: *Proceedings of the 2016 ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications*. OOPSLA 2016. Amsterdam, Netherlands: ACM, pp. 748–764.
- 2015  
Barman, Shaon, Rastislav Bodik, Satish Chandra, Emina Torlak, Arka Bhattacharya, and David Culler. "Toward Tool Support for Interactive Synthesis". In: *Proceedings of the 2015 ACM International Symposium on New Ideas, New Paradigms, and Reflections on Programming & Software*. Onward! 2015. Pittsburgh, Pennsylvania, United States: ACM.
- 2015  
Chasins, Sarah, Shaon Barman, Rastislav Bodik, and Sumit Gulwani. "Browser Record and Replay As a Building Block for End-User Web Automation Tools". In: *Proceedings of the 24th International Conference on World Wide Web*. WWW '15 Companion. Florence, Italy: International World Wide Web Conferences Steering Committee, pp. 179–182.

- 2011  
Barman, Shaon, Rastislav Bodik, Sagar Jain, Yewen Pu, Saurabh Srivastava, and Nicholas Tung. "Parallel Programming with Inductive Synthesis". In: *Proceedings of the 3rd USENIX Conference on Hot Topic in Parallelism*. HotPar'11. Berkeley, CA: USENIX Association, pp. 14–14.
- 2011  
Chandra, Satish, Emina Torlak, Shaon Barman, and Rastislav Bodik. "Angelic Debugging". In: *Proceedings of the 33rd International Conference on Software Engineering*. ICSE '11. Waikiki, Honolulu, HI, USA: ACM, pp. 121–130.
- 2010  
Bodik, Rastislav, Satish Chandra, Joel Galenson, Doug Kimelman, Nicholas Tung, Shaon Barman, and Casey Rodarmor. "Programming with Angelic Nondeterminism". In: *Proceedings of the 37th Annual ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages*. POPL '10. Madrid, Spain: ACM, pp. 339–352.
- Undergraduate Honors Thesis
- 2009  
Barman, Shaon. "Aster: Automatic abstract syntax". University of Texas at Austin.

## Work Experience

- 2017  
**Software Engineer**, *Twitter*, Nov 2017 to current.  
Senior SWE (Feb 2020 to current), SWE II (Nov 2017 to Feb 2020)  
Working on the Health Rehabilitation and Remediation team to develop frontend and backend systems used to action policy-violating users.
- 2016  
**Full Stack Software Engineer**, *Captricity*, May 2016 to May 2017.  
Created benchmark to fix reliability issues, leading to a 10x speedup of a major bottleneck  
Developed a new backend for Celery (a distributed task queue) using Redis sorted sets, allowing Celery to prioritize tasks based upon a due date  
Built a monitoring system for Celery to proactively identify and retry failed tasks  
Increased Mechanical Turk worker efficiency by implementing a scrolling UI in Angular  
Refactored accounting code to charge for new features and fix concurrency issues
- 2011  
**Software Engineer Intern**, *Mozilla*, May 2011 to August 2011.  
Implemented initial prototype of a PDF reader written in Javascript (pdf.js)
- 2010  
**Research Intern**, *IBM Research*, May 2010 to July 2010.  
Implemented a fault localization tool using symbolic programming
- 2008  
**Software Engineer Intern**, *Google*, May 2008 to August 2008.  
Worked on AdWords Front End Conversion Tracking  
Implemented new UI to integrate AdWords and Analytics
- 2007  
**Software Development Engineer Intern**, *Microsoft*, May 2007 to August 2007.  
Worked on System Center Service Manger  
Integrated PowerShell into the existing task infrastructure

2006 ●  
— **Student Programmer**, *UT Austin Department of Integrative Biology*, January 2006 to May 2006.

Implemented algorithms to analyze correlations in DNA sequences

2005 ●  
— **Summer Intern**, *BP*, May 2005 to August 2005.

Learned basic SQL and data mining techniques

Worked within a large database used to schedule work on oil platforms

## Teaching Experience

2014 ●  
— **CS 164: Hack Your Language!**, *Teaching Assistant*, Professor Ras Bodik, Fall 2014.  
Received 4.8 / 5.0 from student reviews

2012 ●  
— **CS 164: Hack Your Language!**, *Lead Teaching Assistant*, Professor Ras Bodik, Spring 2012.  
Received 4.0 / 5.0 from student reviews

## Volunteer Experience

2009  
2015  
— **Asha for Education**, *Project Steward*, October 2009 to May 2015.  
Presented updates and funding requests for Jamghat, a children's shelter in Delhi

2014 ●  
— **Techbridge**, *Mentor*, January 2014 to May 2014.  
Mentored a group of high school girls working on projects involving Arduinos

2008  
2009  
— **FIRST Robotics**, *Mentor*, January 2008 to May 2009.  
Helped mentor a high robotics team with the programming and construction of a robot

2006 ●  
— **Austin's Children Museum**, *Volunteer*, June 2006.  
Helped at a robotics camp teaching kids how to program Lego Mindstorms kits

## Selected Coursework

2015 ●  
— **Audited INFO 298: Bridging the Digital Divide**, *Instructor: Yahel Ben-David*.  
Learned about the Further Reach network, a wireless broadband ISP serving a rural, sparsely-populated area

2014 ●  
— **PH 290: Eat. Think. Design**, *Instructor: Jaspal Sandhu*.  
Applied the design process to find new ways of increasing access to healthy foods within the Navajo Nation

2012 ●  
— **INFO 235: Cyberlaw**, *Instructor: Brian Carver*.  
Wrote a Wikipedia article on the US Supreme Court case *United States v. Cotterman*

2011 ●  
— **E 290e: Marketing Emerging Technologies**, *Instructor: Andrew Isaacs*.  
Wrote a business plan for Captricity, a startup which crowdsources text extraction

2010 ●  
— **CS 260: Human Computer Interaction**, *Instructor: Björn Hartmann*.  
Developed a new IVR system for NextDrop, a project to crowdsource water availability information in the developing world

2010 ●  
— **CS 294: Cellphones as a Computing Platform**, *Instructor: Eric Brewer*.  
Helped create a system to record EKGs using a Nokia N900 cell phone and inexpensive circuits

2009

CS 265: Dynamic Program Analysis, Testing, and Debugging, *Instructor: Koushik Sen.*

2009

CS 262a: Computer Systems, *Instructor: Eric Brewer.*

## Achievements

- o Computing Research Assn.'s Outstanding Undergraduate Award-Honorable Mention (2009)