

Malavika Samak

The Stata Center, G740, 32 Vassar St, Cambridge, MA 02139
Email: malavika@csail.mit.edu, malavika.samak@gmail.com
Home page: <https://malavikasamak.com/>

Interests	Program Synthesis, Program Analysis, Software Engineering.	
Education	Indian Institute of Science , Bangalore, Karnataka. Ph.D, August 2012 to Jan 2017 Dissertation: Targeted Client Synthesis for Detecting Concurrency Bugs Sri Jayachamarajendra College of Engineering , Mysore, Karnataka. B.E., Computer Science and Engineering, June 2006 - June 2010	
Work Experience	Postdoctoral Associate , CSAIL, MIT, USA	Jan 2020 - Present
	Postdoctoral Associate , CSAIL, MIT, USA	Mar 2017 - Dec 2018
	Visiting Researcher , Microsoft Research, India	Feb 2017 - Mar 2017
	Software Engineering Intern , Google Inc., Mountain View, CA, USA	Apr 2016 - Jul 2016
	Software Engineer , NDS, Bangalore, India	Jul 2010 - Jul 2012
Peer-reviewed Conference Publications	M.Samak , J.Cambronero and MC.Rinard, “Searching for Replacement Classes”, under submission M.Samak , D.Kim and MC.Rinard, “Synthesizing Replacement Classes”, <i>47th ACM SIGPLAN Symposium on Principles of Programming Languages, Jan 2020</i> , (68/247 = 27.5%) POPL’20 M. Schlaipfer, K.Rajan, A. Lal and M.Samak , “Optimizing Big-Data Queries Using Program Synthesis”, <i>26th ACM Symposium on Operating Systems Principles, Oct 2017</i> , (39/232 = 16.8 %) SOSP’17 M.Samak , O.Tripp and M.Ramanathan, “Directed Synthesis of Failing Concurrent Executions”, <i>Annual Conference on Object-oriented Programming, Systems, Languages, and Applications, Oct 2016</i> , (52/203 = 25.6%) OOPSLA’16 M.Samak and M.Ramanathan, “Synthesizing Tests for Detecting Atomicity Violations”, <i>10th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering, Sep 2015</i> , (74/291 = 25.4%) (Artifact Evaluated) FSE’15 M.Samak , M.Ramanathan, S.Jagannathan, “Synthesizing Racy Tests”, <i>36th Annual ACM SIGPLAN Conference on Programming Language Design and Implementation</i> ,	

June 2015, (58/303 = 19.1%) (**Artifact Evaluated**)

PLDI'15

M.Samak and M.Ramanathan, "Multithreaded Test Synthesis for Deadlock Detection", *Annual Conference on Object-Oriented Programming, Systems, Languages, and Applications, Oct 2014*, (53/185 = 28.6%) (**Artifact Evaluated**) **OOPSLA'14**

M.Samak and M.Ramanathan, "Trace Driven Dynamic Deadlock Detection and Reproduction", *19th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming*, Feb 2014 (28/179 = 15.6%) **PPoPP'14**

Graduate Courses Design and Analysis of Algorithms, Linear Algebra and Applications, Program Analysis and Verification, Automata Theory and Computability, Operating Systems, Topics in Software Bug Detection.

Service

- Program Committee member for PLDI 2022, SC 2021, ICPP 2020, SC 2019, PPoPP 2019, OOPSLA 2018.
- Reviewer for TOPLAS 2021, TSE 2019.
- External Review Committee member for OOPSLA 2019, PPoPP 2018.
- PLMW Co-Chair for SPLASH 2020.
- Artifact Evaluation Committee Co-Chair for PPoPP 2018.
- SRC Committee member for SPLASH 2021, PLDI 2018.
- Artifact evaluation committee member for PLDI'17, CGO-PPoPP'17, PLDI'16, OOPSLA'16, CGO-PPoPP'16, POPL'16 and OOPSLA'15.

Teaching

- Teaching assistant, Graduate level Operating Systems course, 2015.
- Instructor, CSA Summer school, 2015.
- Guest speaker, Graduate level Software Engineering course, 2016.
- Mentor, Undergraduate interns 2014-2016.

Honors and Awards

1. Invited speaker "Rising Stars in Computer Science", UMass Amherst, 2019.
2. Received the Google India PhD fellowship, 2015
3. All India Rank 107 in Graduate Aptitude Test Entrance (GATE), 2012
4. Invitations
 - 4th Heidelberg Laureate Forum, Sep 2016
 - Dagstuhl seminar on concurrency, May 2016
 - ACM India-MSR Academic Summit, Jan 2016.
5. Pre-college achievements
 - Captain, Dakshina Kannada district table tennis team, Karnataka, 2002-2004
 - President Guides award, Government of India, 2004
 - 2nd rank in SSLC in Bantwal taluk, 2004
 - 2nd place in Chintana state level science test, 2003