

SUGUMAN BANSAL

Computer Science Ph.D. Candidate

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EDUCATION

Pursuing **PhD** in COMPUTER SCIENCE, **Rice University**, Houston, TX Aug. 2016-Present

Advisor: Prof. Moshe Y. Vardi

Research Interests: Programming languages, Reliability of multi-agent systems, Formal verification

MS in COMPUTER SCIENCE, **Rice University**, Houston, TX Aug. 2014-May 2016

Advisor: Prof. Swarat Chaudhuri

Thesis Title: [Algorithmic Analysis of Regular Repeated Games](#)

BSc (with **Honors**) in MATHEMATICS and COMPUTER SCIENCE Aug. 2011-May 2014

Chennai Mathematical Institute (CMI), Chennai, India

GPA (Major): 9.2/10

PUBLICATIONS

Refereed conference papers

- [1] [Automata vs linear-programming discounted-sum inclusion](#)
Suguman Bansal, Swarat Chaudhuri, and Moshe Y. Vardi
In Proc. of International Conference on Computer-Aided Verification (CAV) 2018
- [2] [Synthesis of asynchronous reactive programs from temporal specifications](#)
Suguman Bansal, Kedar S. Namjoshi, and Yaniv Sa'ar
In Proc. of International Conference on Computer-Aided Verification (CAV) 2018
- [3] [Comparator automata in quantitative verification](#)
Suguman Bansal, Swarat Chaudhuri, and Moshe Y. Vardi
In Proc. of International Conference on Foundations of Software Science and Computation Structures (FoSSaCS) 2018

ArXived

- [4] [Equilibria in quantitative concurrent games](#)
Shaull Almagor, Rajeev Alur, and Suguman Bansal
arXiv preprint arXiv:1809.10503

Workshop presentations

- [5] [Chanakya: Computer-aided strategic reasoning](#)
Suguman Bansal, and Swarat Chaudhuri
Off the Beaten Track (OBT) 2016 at POPL 2016

POSTERS

- [1] *Reasoning about Incentive Compatibility* appeared at *ACM Student Research Competition 2016* at POPL 2016, January 2016, St. Petersburg, USA

Gold Medal at the ACM SRC at POPL 2016

INTERNSHIPS

Bell Labs, Murray Hill, New Jersey, USA June 2018 - July. 2018
Research Intern (Mentor: Dr. Kedar S. Namjoshi)

- Synthesis for communicating sequential processes (CSP) for IoT applications

Bell Labs, Murray Hill, New Jersey, USA June 2017 - Aug. 2017
Research Intern (Mentors: Dr. Kedar S. Namjoshi and Dr. Michael Emmi)

- On LTL-synthesis for asynchronous systems

Indian Statistical Institute, Kolkata, India Summer 2012
Summer Intern (Mentor: Prof. Shubhomay Mitra)

- On the applications of LLL Algorithm to crypto-analysis

RESEARCH VISIT

Simons Institute, University of California - Berkeley, California, USA March 2018 - May 2018
Visiting Graduate Student
Spring 2018 program on **Real-Time Decision Making**

DISTINCTIONS AND AWARDS

- **Rice Engineering Alumni Graduate Grant** 2017
Awarded by the Rice Engineering Alumni (REA) to one graduate student each year
- **Gold Medal at the ACM Student Research Competition at POPL 2016** 2016
- **Andrew Ladd Graduate Fellowship** 2015 - 2016
Awarded by the Rice Computer Science Department and Ken Kennedy Institute for excellence in Computer Science
- **CMI Undergraduate Scholarship** 2011 - 2014
Scholarship awarded by CMI to undergraduate students for excellence in academics
- **KVPY Science Fellowship (Govt. of India)** 2008
Fellowship awarded by the Ministry of Science and Technology, Government of India, for excellence in Basic Sciences
- **Travel grants**
MIT EECS Rising Stars Travel Grant (2018), NSF-CAV/VMW Travel Grant (2015, 2018), ETAPS Student Scholarship (2018), Google Student Research Summit Travel Grant (2017), LMW-LICS Scholarship (2017, declined), CRA-W Grad Cohort Graduate Grant (2017), ACM SRC (POPL) Travel Grant (2016), MSR Faculty Summit Travel Grant (2016), Off The Beaten Track Travel Grant (2016), MSR Summer School Travel Grant (2012)

HONORS

- Accepted to **MIT EECS Rising Stars 2018** (October 2018)
- Invited to **Simons Institute** for program on **Real-time decision making** (March - May 2018)

- Invited to **Google Student Research Summit 2017** (September 2017)
- Selected to participate in **CRA-W Grad Cohort 2017** (April 2017)
- Invited to **Dagstuhl Seminar on Game Theory, AI, Logic and Algorithms** (March 2017)
- Invited to **MSR Faculty Summit 2016** (July 2016)

RESEARCH TALKS

Invited Talks

- [1] Comparator automata for quantitative verification *RiSE Seminar, IST Austria, April 2018*
- [2] Reasoning about incentive compatibility *Google Student Research Summit, YouTube Headquarters, San Bruno, CA, USA, September 2017*
- [3] Comparators for quantitative games *Saarland University, Saarbrücken, Germany, March 2017*

Seminar Talks

- [4] Comparator automata in quantitative verification *University of California, Berkeley, April 2018*
- [5] Comparators for quantitative games *Student Spotlight, 2nd Winter School in Computer Science and Engineering on Formal Methods, IIAS, Jerusalem, Israel, December 2017*
- [6] Asynchronous synthesis: The Ugly, the Bad and the ? *Application Platforms and Software Systems Group, Nokia Bell Labs, Murray Hill, NJ, USA, July 2017*
- [7] Comparators for quantitative games *Dagstuhl Seminar on Game Theory in AI, Logic and Algorithms, Dagstuhl, Germany, March 2017*
- [8] Reasoning about Selfishness *Jawaharlal Nehru University, New Delhi, India, December 2016*
- [9] Algorithmic Analysis of Regular Repeated Games *Rice University, April 2016*
- [10] Reasoning about Incentive Compatibility *ACM Student Research Competition 2016 at POPL 2016, St. Petersburg, USA, January 2016*

Conference/Workshop presentations

- [11] CAV 2018 (a), *Oxford, UK, July 2018*
- [12] CAV 2018 (b), *Oxford, UK, July 2018*
- [13] FoSSaCS 2018, *Thessaloniki, Greece, April 2018*
- [14] Off the Beaten Track 2016, *St. Petersburg, USA, January 2016*

TEACHING EXPERIENCE

Stand-in Lecturer

COMP 409/509 : Logic in Computer Science Fall 2018

Teaching Assistant

- COMP 540: Statistical Machine Learning Spring 2017
- COMP 382: Reasoning about Algorithms Fall 2016
- COMP 582: Design and Analysis of Algorithms Fall 2015
- COMP 481: Automata, Formal Languages and Computability Spring 2015, Spring 2016

SERVICE

- **Reviewer**

CACM (2017, 2018), CP (2017), FSTTCS (2018), IJCAI (2016), LPAR (2018), TACAS (2017)

- Judge, Rice Undergraduate Research Symposium, Rice University (2016)

- Coordinator, Dept. of Computer Science Weekly Colloquium, Rice University (2015-2016)

- Academic Coordinator, Rice Computer Science Graduate Student Association (2015-2016)

- Publicity Coordinator, Indian Students at Rice (ISAR) (2015-2016)

- Advertising Coordinator, 90 Second Thesis Competition, Rice University (2015)

- General Chair, Fiesta 2012, CMI's annual collegiate festival (2012)

- Founder and Head, Environment Club, CMI (2011-2014)

- Volunteer, CMI Workers Welfare Activities, CMI (2011-2014)