

# Raghuram Ramanujan

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## CONTACT INFORMATION

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## RESEARCH INTERESTS

**Artificial Intelligence:** Single-Agent and Adversarial Planning, Combinatorial Reasoning, Machine Learning

## EDUCATION

### **Cornell University**, Ithaca, NY

Ph.D., Computer Science, May 2012 (expected)  
Dissertation Title: *Understanding Sampling-based Adversarial Search Methods*  
Advisor: Bart Selman  
Minor: Education

### **Purdue University**, West Lafayette, IN

B.S., Computer Engineering, December 2004  
Minor: Economics  
GPA: 4.0/4.0

## TEACHING EXPERIENCE

### **Cornell University**, Ithaca, NY

#### **Instructor**

- *CS 1109: Fundamental Programming Concepts*  
*Summer 2011*  
Taught introductory programming using Matlab to 31 incoming freshmen and advanced high school students. Designed syllabus, lectures, lab and homework assignments, quizzes and exams.

#### **Graduate Teaching Assistant**

- *CS 2800: Discrete Structures*  
*Fall 2007, 2008, 2009, 2010*  
Supervised team of 10–12 undergraduate teaching assistants. Tutored small groups during weekly office hours. Guest lectured, helped design exams and graded assignments.  
**Awarded Outstanding TA Award for 2008 and 2009**
- *CS 100J: Introduction to Computing Using Java*  
*Spring 2008*  
Taught a weekly lab section of 18 students. Offered one-on-one assistance during office hours, and graded assignments.
- *CS 211: Object Oriented Programming and Data Structures*  
*Summer 2007*  
Conducted office hours, and helped design and grade assignments and exams.
- *CS 472: Introduction to Artificial Intelligence*  
*Fall 2006*  
Offered one-on-one and small group tutoring sessions during weekly office hours. Helped review student project presentations and submissions. Helped design and grade assignments and exams.

**Purdue University**, West Lafayette, IN

**Undergraduate Teaching Assistant**

- *CS 158: Introduction to C Programming*  
*Spring 2004*  
Taught a weekly lab section of 25 students and graded assignments.
- *ECE 362: Microprocessor System Design and Interfacing*  
*Fall 2003*  
Helped test and debug student circuits and software in weekly lab section.

MENTORING  
EXPERIENCE

**Cornell University**, Ithaca, NY

*2010–2011*

Mentored a team of undergraduate and master’s students who were constructing an agent to play Texas Hold’Em No-Limit Poker. Student project was featured in the annual *Bits On Our Minds (BOOM) 2011* showcase event at Cornell University.

OUTREACH  
ACTIVITIES

**Graduate Student School Outreach Program (GRASSHOPR)**

*Spring 2011*

Designed and taught a 3-module course on topics from game theory to an 8<sup>th</sup> grade class at Spencer-Van Etten Middle School, Spencer NY.

**Expanding Your Horizons**

*Spring 2011*

Helped design and conduct a 1-hour workshop on combinatorial games for middle-school girls.

PROFESSIONAL  
EXPERIENCE

**Lutron Electronics**, Coopersburg, PA

*Engineering Co-op*

*May, 2003 - Aug, 2003*

Helped develop a user-interface for an LCD-based programming tool for lighting systems.

*Engineering Co-op*

*Aug, 2002 - Dec, 2002*

Helped develop a software layout application for the RadioRA range of products.

ACADEMIC  
SERVICE

**Program Committee Member:** IJCAI (2011), AAI (2011, 2010)

**Reviewer:** CP (2011), AMAI (2010), ICTAI (2010), NESCAI (2010), UAI (2009)

CONFERENCE  
PUBLICATIONS

*Applying UCT to Boolean Satisfiability* (extended abstract)

Alessandro Previti, Raghuram Ramanujan, Marco Schaerf and Bart Selman

In *SAT-11: Fourteenth International Conference on Theory and Applications of Satisfiability Testing*, pp 373-374, Ann Arbor, MI, June 2011. Extended version in *AI\*IA 2011: Artificial Intelligence Around Man and Beyond - XIIth International Conference of the Italian Association for Artificial Intelligence*, pp 177-188, Palermo, Italy, September 2011.

*Trade-Offs in Sampling-Based Adversarial Planning*

Raghuram Ramanujan and Bart Selman

In *ICAPS-11: 30<sup>th</sup> International Conference on Automated Planning and Scheduling*, pp 202-209, Freiburg, Germany, June 2011.

**Honorable mention for best student paper**

*Understanding Sampling Style Adversarial Search Methods*  
Raghuram Ramanujan, Ashish Sabharwal and Bart Selman  
In *UAI-10: 6th Conference on Uncertainty in Artificial Intelligence*, pp 474-483, Avalon / Catalina Island, CA, July 2010.

*On Adversarial Search Spaces and Sampling-Based Planning*  
Raghuram Ramanujan, Ashish Sabharwal and Bart Selman  
In *ICAPS-10: 29<sup>th</sup> International Conference on Automated Planning and Scheduling*, pp 242-245, Toronto, Canada, June 2010.

WORKSHOP  
PUBLICATIONS

*Applying UCT to Boolean Satisfiability*  
Alessandro Previti, Raghuram Ramanujan, Marco Schaerf and Bart Selman  
In *18<sup>th</sup> RCRA International Workshop on Experimental Evaluation of Algorithms for Solving Problems with Combinatorial Explosion*, Barcelona, Spain, July 2011.

*On the Behavior of UCT in Synthetic Search Spaces*  
Raghuram Ramanujan, Ashish Sabharwal and Bart Selman  
In *Workshop on Monte Carlo Tree Search Methods*, Freiburg, Germany, June 2011.

OTHER  
ACTIVITIES

**Cornell Outdoor Education**

*Instructor, 2006-2010*

Led groups of 10–12 students on multi-day trips. Taught classes in backcountry skills and outdoor photography.

**Nature & Wildlife Photography**

<http://rramanujan.smugmug.com>