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# CHETAN RAO

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## Education

- **University of Wisconsin–Madison** Madison, WI  
*M.S. in Computer Sciences (GPA: 3.83/4)* *Aug 2011 – May 2013*
  - *Thesis:* Maximizing revenue in digital-good auctions.
  - *Areas of Interest:* Algorithms & Complexity, Optimization, Algorithmic Game Theory.
  - *Relevant courses:* Advanced Algorithms, Nonlinear Optimization, Tools for Optimization, Mobile & Wireless Networking, Topics in Database Management Systems, Complexity Theory, Computational Mathematics I, Game Theory & Decision Making, Microeconomic Theory.
- **National Institute of Technology (NIT)** Calicut, India  
*B.Tech. in Computer Science & Engineering (GPA: 9.31/10)* *Aug 2007 – May 2011*
  - *Department Rank:* 2/105
  - *Relevant courses:* Data Structures & Algorithms, Design & Analysis of Algorithms, Advanced Algorithms, Computer Networks, Number Theory & Cryptography, Operating Systems, Distributed Computing, Trends in Middleware Systems, Database Management Systems, Discrete Mathematics, Combinatorics, Probability & Statistics, Advanced Graph Theory.

## Experience

- **Intern, Amazon.com** Bangalore, India  
*Software Development Engineer (SDE)* *Summer 11*
  - Developed, tested modules of a fraud detection and prevention tool used by Amazon FPS (Flexible Payments Service).
  - *Technologies used:* Rails (web application framework), Java (back-end) on Linux.
- **Research Assistant, University of Wisconsin–Madison** Madison, WI  
*(Supervisor : Prof. Shuchi Chawla)* *Summer 12 onwards*
  - Working on the problem of maximizing revenue in digital-good auctions where the auctioneer is unaware of the market (prior-free).
- **Research Fellow, Indian Institute of Science** Bangalore, India  
*(Supervisor : Prof. Y. Narahari)* *Summer 10*
  - Implemented a sports prediction market (a free betting market) for the FIFA World Cup 2010 which predicted game outcomes with an accuracy of 75%.
  - Proposed a new mechanism for prediction markets with stronger guarantees.

• **Research Assistant, Indian Institute of Technology**

(Supervisor : Prof. Umesh Bellur)

Bombay, India  
Spring 10 – Fall 10

- Worked on power-optimizing placement algorithms for packing virtual machines on least number of physical machines.
- Developed scripts compatible with the open-source hypervisor Xen to implement the algorithm and verify its performance on an 8-node cluster.
- This project resulted in two manuscripts:
  - *Improved approximation bounds for Vector Bin Packing* (arXiv)
  - *Optimal Placement Algorithms for Virtual Machines* (arXiv)

For complete listing of projects, please see [cs.wisc.edu/~chetan/Research/](http://cs.wisc.edu/~chetan/Research/)

## Teaching Experience

• **University of Wisconsin–Madison**

Madison, WI

*Teaching Assistant*

*Fall 12*

Led discussion sections of the discrete mathematics course (CS 240). Shared responsibility for developing discussion exercises, homework assignments and exams.

*Lab Assistant*

*Fall 11 – Spring 12*

Assisted students in lab sections of the introduction to programming in Java course (CS 302).

## Awards and Honors

Awardee, CS Summer RA Award, UW – Madison	2012
8th among 220 teams, ACM ICPC (Programming Contest), NCNA Regionals	2011
Recipient, CS Alumni Scholarship, UW – Madison	2011
Awardee, Indian Academy of Science (IAS) Fellowship	2010
Awardee, AOL Code Dash – 50th best coder among undergraduates in India	2010
Awardee, Academic Proficiency Award, NIT	2008–10

## Skills

**Languages:** *Programming:* C/C++ (advanced), Java (advanced), Python (basic), Ruby (basic).  
*Scripting/Web:* L<sup>A</sup>T<sub>E</sub>X, Shell script, HTML/CSS, PHP, SQL, Ruby on Rails.

**Operating Systems:** Linux/Unix, MS Windows