

# Arpit Agarwal

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## CONTACT INFORMATION

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University of Pennsylvania  
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## RESEARCH INTERESTS

Machine Learning, Information Elicitation, Learning Theory

## EDUCATION

**Ph.D. in Computer & Information Science** 2016 – present  
University of Pennsylvania Philadelphia, USA  
GPA: 4.0/4.0  
Advisor: Shivani Agarwal

**Ph.D. candidate in Computer Science & Automation** 2014 – 2016  
Indian Institute of Science Bangalore, India  
Transferred to University of Pennsylvania in Fall 2016

**M.E. in Computer Science & Engineering** 2012 – 2014  
(Awarded medal for Best Student in the outgoing batch)  
Indian Institute of Science Bangalore, India  
CGPA: 7.4/8.0

**B.Tech. (Hons.) in Computer Science & Engineering** 2008 – 2012  
Kamla Nehru Institute of Technology Sultanpur, India

## RESEARCH VISITS

- Research Fellow at SEAS, Harvard University (September, 2015 – December, 2015)  
Advisor: Prof. David Parkes

## PUBLICATIONS

- Agarwal, A., Patil, P., and Agarwal, S.,  
*Accelerated Spectral Ranking via Message Passing.*  
In preparation.
- Agarwal, A., Agarwal, S., Assadi, S., and Khanna, S.,  
*Learning with Limited Rounds of Adaptivity: Coin Tossing, Multi-Armed Bandits, and Ranking from Pairwise Comparisons.*  
In Conference on Learning Theory (**COLT**), 2017.
- Agarwal, A., Mandal, D., Parkes, D., and Shah, N.,  
*Peer Prediction with Heterogeneous Users.*  
In 18th ACM Conference on Economics and Computation (**EC**), 2017.  
Invited to **TEAC special issue** for EC 2017 papers.
- Shnayder, V., Agarwal, A., Frongillo, R. and Parkes D.C.,  
*Informed Truthfulness in Multi-Task Peer Prediction.*  
In 17th ACM Conference on Economics and Computation (**EC**), 2016.
- Shnayder, V., Agarwal, A., Frongillo, R. and Parkes D.C.,  
*Informed Truthfulness in Multi-Task Peer Prediction (short version).*  
In **HCOMP** Workshop on Mathematical Foundations of Human Computation, 2016.

- Agarwal, A. and Agarwal, S.,  
*On Consistent Surrogate Risk Minimization and Property Elicitation.*  
In Conference on Learning Theory (**COLT**), 2015.
- Agarwal, A., Narasimhan, H., Kalyanakrishnan, S. and Agarwal, S.,  
*GEV-Canonical Regression for Accurate Binary Class Probability Estimation when One Class is Rare.*  
In 31st International Conference on Machine Learning (**ICML**), 2014.

ACHIEVEMENTS  
AND AWARDS

- Travel grant for presenting a paper at COLT 2017.
- Student volunteer scholarship for ICML 2014, ICML 2015.
- Travel grant from Google India for presenting a paper at ICML 2014, COLT 2015.
- Computer Society of India medal for best M.E. student in computer science & engineering, Indian Institute of Science, Bangalore, 2014.
- Secured all India rank 30 in Graduate Aptitude Test in Engineering (GATE) 2012 (out of around 150,000 students).

GRADUATE  
COURSES

**Fall 2012**

Probability & Statistics (IISc)  
Design and Analysis of Algorithms (IISc)  
Program Analysis & Verification (IISc)  
Operating Systems (IISc)

**Spring 2013**

Machine Learning (IISc)  
Game Theory (IISc)  
DBMS (IISc)  
Automated Verification (IISc)

**Fall 2013**

Statistical Learning Theory (IISc)  
Computational Methods of Optimization (IISc)  
Linear Algebra (IISc)

**Fall 2014**

Real Analysis (IISc)  
Information Theory (IISc)

**Fall 2015**

Advanced Machine Learning (MIT, Audit)

**Fall 2016**

Randomized Algorithms (UPenn)

**Spring 2017**

Online Methods in Machine Learning (UPenn)  
Combinatorial Optimization (UPenn)

TEACHING  
EXPERIENCE

- Teaching Assistant, UPenn CIS 520 Machine Learning, Fall 2017  
Responsibilities: setting up and correction of homeworks, design of course project, regular TA hours.
- Teaching Assistant, IISc E0 270 Machine Learning, Spring 2016  
Responsibilities: tutorials on optimization, mentoring student projects, regular TA hours, setting up and correction of homeworks.

REVIEWER  
SERVICE

JAIR, COLT 2017.

TALKS/  
PRESENTATIONS

- “Learning with Limited Rounds of Adaptivity: Coin Tossing, Multi-Armed Bandits, and Ranking from Pairwise Comparisons”, Indian Institute of Science, Bangalore, 2017.
- “Learning with Limited Rounds of Adaptivity: Coin Tossing, Multi-Armed Bandits, and Ranking from Pairwise Comparisons”, Microsoft Research, Bangalore, 2017.
- “Learning with Limited Rounds of Adaptivity: Coin Tossing, Multi-Armed Bandits, and Ranking from Pairwise Comparisons”, Conference on Learning Theory (COLT), Amsterdam, 2017.
- “On Consistent Surrogate Risk Minimization and Property Elicitation”, ACM IKDD, Pune, India, 2016.
- “Connections between Calibrated Surrogates in Supervised Learning and Property Elicitation in Probability Forecasting”, Presented at Harvard EconCS group meeting, Harvard University, 2015.
- “GEV-Canonical Regression for Accurate Binary Class Probability Estimation when One Class is Rare”, International Conference on Machine Learning (ICML), Beijing, China, 2014.
- “Randomization at work: An Introduction to Randomized Algorithms”, CSA Undergraduate Summer School, Indian Institute of Science, Bangalore, 2013.

PROGRAMMING SKILLS C, Java, Matlab, Python

ORGANIZATIONAL  
ACTIVITIES

- Member of Departmental Curriculum Committee, CSA, IISc, 2015-2016.
- Lead volunteer for Big Data Initiative, CSA, IISc, 2014.
- Volunteer for Indo-US Lectures Week in Machine Learning, Game Theory and Optimization, 2014.
- Organizer of machine learning programming contest TagMe! in CSA Open Days, Indian Institute of Science, 2014.

REFERENCES Available upon request.