Arpit Agarwal

CONTACT INFORMATION

Department of Computer and Information Science
University of Pennsylvania
E-mail: aarpit@seas.upenn.edu
WWW: http://www.seas.upenn.edu/ aarpit/

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., Assadi, S., and Khanna, S.,
  Stochastic Submodular Covering with Limited Adaptivity.
  Under submission.
- Agarwal, A., Patil, P., and Agarwal, S.,
  Accelerated Spectral Ranking.
  In International Conference on Machine Learning (**ICML**), 2018 (To Appear).
- 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.