

Karan Chadha | Electrical Engineering

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Research Interests: Applied Probability, Learning, Optimization, Game Theory, Reinforcement Learning

EDUCATION

Indian Institute of Technology Bombay

2014 - 2019

Dual Degree (B.Tech. + M.Tech.), Electrical Engineering

Specialization: Communication and Signal Processing

GPA: 9.67 /10 (1st among 46 students)

- Scored a Semester Point Index of **10/10** in the 4th, 5th, 7th & 8th semester in IIT Bombay
- Awarded the **Institute Academic Prize** for standing 1st (out of 66) in 2017 and 2018.
- Secured **AP** grade (awarded to less than top 1 % of a class) in 4 courses: Digital Communications, Internet Economics, Science of Information Statistics & Learning, and Topics in Topology

PUBLICATIONS

1. Vivek Borkar, **Karan Chadha**, “A reinforcement learning algorithm for restless bandits”, *Indian Control Conference*, 2018. (<https://ieeexplore.ieee.org/abstract/document/8307959>)
2. **Karan N Chadha**, Ankur A Kulkarni, “On independent cliques and linear complementarity problems”, submitted to *Mathematics of Operations Research*. (<https://arxiv.org/abs/1811.09798>)
3. **Karan N Chadha**, Ankur A Kulkarni, “Aggregate play and welfare in strategic interaction on networks”, in preparation, *Journal of Mathematical Economics*. (<https://kc1729.github.io/files/aggeffort.pdf>)

EXPERIENCE

University of Southern California, Los Angeles, CA

Summer ‘17

Visiting student under *Prof. Rahul Jain* (Topic : Risk Aware Economic Dispatch)

SYSU-CMU Joint Research Institute, Guangzhou, China

Summer ‘17

Visiting student under *Prof. Paul Weng* (Topic : Deep Reinforcement Learning for Atari games)

AWARDS AND RESPONSIBILITIES

Awards	<ul style="list-style-type: none">• Recipient of the Honda YES Award awarded 2016 to 14 students in India, which recognizes meritorious students in Science and Technology• All India Rank 125 in JEE Advanced ‘14 out of 126K
Responsibilities	<ul style="list-style-type: none">• Head, Department Academic Mentorship Programme (2018-19) (Awarded <i>Special Mention</i> (4 out of 204) for excellent mentorship skills)• Institute Student Mentor at IIT Bombay (2017-18)• Teaching Assistant at IIT Bombay in Optimization ‘18 (Graduate) and <i>Partial Differential Equations</i> ‘16 and <i>Linear Algebra</i> ‘17 (Undergraduate)• Organizer, Workshop on Games on Networks & Queues, IIT Bombay ‘19

OTHER PROJECTS AND RELEVANT COURSES

- Research Project: **Estimation of edge resistances using MCMC**, [Prof. Vivek Borkar](#) [[Report](#)]
- Survey Project: **Mathematics of Deep Learning**, [Prof. Vivek Borkar](#) [[Report](#)]
- Survey Project: **Risk Constrained Markov Decision Processes**, [Prof. Vivek Borkar](#) [[Report](#)]
- **Relevant Graduate Courses:** Combinatorial Optimization, Stochastic Optimization, Games & Information, Measure Theory, Stochastic Processes, Concentration Inequalities, Information Theory

¹Use URL <https://kc1729.github.io/> if hyperlinks don't work