

Nikhil Garg

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EDUCATION

Stanford University, August 2015 - Present

Stanford, CA

PhD Candidate, Electrical Engineering, (Advisors: Ashish Goel & Ramesh Johari)

MS, Electrical Engineering, 2017

NSF Graduate Research Fellowship, 2015

University of Texas at Austin, 2015

Austin, TX

BS, Electrical and Computer Engineering, Highest and Special Honors

BA, Plan II Honors (Liberal Arts)

Thesis: User Association in Dense Next-Generation Wireless Networks (Advisor: Jeff Andrews)

Project: ProjectAlexandria.net: Book Recommendation & Exploration Engine (Advisor: Constantine Caramanis)

INDUSTRY EXPERIENCE

Uber

San Francisco, CA

Data Science Intern, Marketplace

06/18 - 09/18

Microsoft

Bellevue, WA

Software Development Engineering Intern, Bing Ads

05/14 - 08/14

NASA Glenn Research Center

Cleveland, OH

Research Associate, NASA Space Academy

06/13 - 08/13

RESEARCH EXPERIENCE

Society and Algorithms Lab (SOAL), and Stanford Crowdsourced Democracy Team

Stanford

PhD candidate working with Ashish Goel and Ramesh Johari

09/15 - Present

Wireless Networks and Communications Group

UT Austin

Research Assistant under Prof. Jeffrey Andrews

08/14 - 05/15

Mobile and Pervasive Computing Group

UT Austin

Research Assistant under Prof. Christine Julien

01/12 - 05/13

Autonomous Vehicles Lab, Learning Agents Research Group

UT Austin

Student - Freshmen Research Initiative

01/12 - 05/12

POLICY EXPERIENCE

IEEE-USA, Washington Internship for Students of Engineering Program

Washington, DC

Technology Policy Associate

06/15 - 08/15

Texas Senate

Austin, TX

Legislative Intern, State Senator Davis's Legislative Office

08/13 - 12/13

Strauss Center for International Security and Law

UT Austin

Scholar, Next Generation Scholars Program

08/13 - 05/14

TEACHING EXPERIENCE

Management Science & Engineering

Stanford

Teaching Assistant, Small Data, w/ Ramesh Johari

09/18 - 12/18

Graduate School of Business

Stanford

Teaching Assistant, Data Science for Online Marketplaces, w/ Ramesh Johari & Gabriel Weintraub

05/18

Department of Electrical & Computer Engineering

UT Austin

Teaching Assistant, Introduction to Computing, w/ Yale Patt

08/13 - 12/13

Department of Mathematics

UT Austin

Learning Assistant, Integral Calculus

01/12 - 05/12

PROFESSIONAL ACTIVITIES

Fellowships

- National Science Foundation Graduate Fellowship, 2015-2018
- Stanford McCoy Center for Ethics in Society Graduate Fellow, 2017-2018

Reviewing

- PC Member, WWW 2018 Big Web Track
- Markets for Good's *Good Data Grant*, 2016

Organization

- Stanford Social Algorithms (SOAL) Seminar, 2017-2018
- Stanford Research on Algorithms, Incentives, and Networks (RAIN) Seminar, 2016-2017
- Stanford EE Admit Visit Day Committee, 2017
- UT Austin HKN Honor Society Student Chapter, 2013-2014
- UT Austin IEEE Computer Society Student Chapter, 2011-2013

Consulting

- Jet Blue Technology Ventures, Machine Learning Due Diligence
- SNCF, Machine Learning/Digitalization
- DAS Worldwide | Wireless Everywhere, Wireless Engineering and Strategy

PUBLICATIONS & TALKS

Working Papers

3. NG and Ashish Goel. 2019. "Design of Simple Voting Methods for Multiwinner Elections."
2. NG and Hamid Nazerzadeh. 2019. "Driver Surge Pricing."
1. NG and Ramesh Johari. 2018. "Designing Informative Rating Systems For Online Platforms: Evidence from two experiments." *In Submission*.

Journal

2. NG, Vijay Kamble, Ashish Goel, David Marn, and Kamesh Munagala. 2019. "Iterative Local Voting for Collective Decision-making in Continuous Spaces." *In Journal of Artificial Intelligence Research (JAIR)*.
1. NG, Londa Schiebinger, Dan Jurafsky, and James Zou. 2018. "Word embeddings quantify 100 years of gender and ethnic stereotypes." *In Proceedings of the National Academy of Sciences (PNAS)*.

Conference

6. Dora Demszky, NG, Rob Voigt, James Zou, Jesse Shapiro, Matthew Gentzkow, and Dan Jurafsky. 2019. "Analyzing Polarization in Social Media: Method and Application to Tweets on 21 Mass Shootings." *In North American Chapter of the Association for Computational Linguistics (NAACL '19)*.
5. NG and Ramesh Johari. 2019. "Designing Optimal Binary Rating Systems." *In International Conference on Artificial Intelligence and Statistics (AISTATS '19)*.
4. NG, Ashish Goel, and Ben Plaut. 2018. "Markets for Public Decision-making." *In Web and Internet Economics (WINE '18)*. (Journal version in submission).
3. NG, Vijay Kamble, Ashish Goel, David Marn, and Kamesh Munagala. 2017. "Collaborative Optimization for Collective Decision-making in Continuous Spaces." *In International Conference on World Wide Web (WWW '17)*.
2. NG, Sarabjot Singh, and Jeffrey Andrews. 2015. "Impact of Dual Slope Path Loss on User Association in HetNets." *In IEEE Globecom Workshops (GC Wkshps '15)*.
1. Beth Lewandowski, Kier Fortier, NG, Victor Rielly, Jeff Mackey, Tristan Hearn, Angela Harrivel, and Bradford Fenton. 2015. "Use of electroencephalography and galvanic skin response in the prediction of an attentive cognitive state." *In Health and Human Performance Research Summit, Dayton, CO*.

Other

5. Lodewijk Gelauff, Sukolsak Sakshuwong, NG, and Ashish Goel. 2018. "Comparing Voting Methods for Budget Decisions on the ASSU Ballot"
4. NG. 2015. "Fair Use and Innovation in Unlicensed Wireless Spectrum: LTE unlicensed and Wi-Fi in the 5 GHz unlicensed band," *IEEE-USA, Journal of Technology and Public Policy*.
3. NG. "Comments of Nikhil Garg: A Doctrine of Fair Use of Unlicensed Bands." Federal Communications Commission ET Docket No. 15-105 (LTE Unlicensed Docket), 26 Jun. 2015.
2. NG 2015. "Downlink and Uplink User Association in Dense Next-Generation Wireless Networks," Bachelors Thesis, University of Texas at Austin, Austin, TX.
1. Kier Fortier, NG, and Elizabeth Pickering. 2013. "Multi-Modal, Multi-State, Real-Time Crew State Monitoring System," NASA Glenn Research Center, Space Academy Research Report.

Talks

- 01/19** *Word Embeddings Quantify 100 Years of Gender and Ethnic Stereotypes* @ Stanford Symbolic Systems Symposium
- 12/18** *(Empirical) Design of Simple Voting Mechanisms* (Poster) @ WINE'18 in Oxford, UK
- 11/18** *Markets for Public Decision-making* at INFORMS'18 in Phoenix, AZ
- 09/18** Data Ethics panel at eWEAR Stanford
- 07/18** *Designing Informative Rating Systems: Evidence from two experiments*, Uber research seminar, San Francisco, CA
- 06/18** *Designing Informative Rating Systems: Evidence from two experiments*, Market Design Workshop at EC'18 in Cornell, Ithaca, NY
- 04/18** *Reputation, Trust, and Markets*, Stanford MS&E 190
- 04/18** *Designing Rating Systems for Online Platforms*, Stanford SOAL seminar
- 10/17** *Designing Rating Systems for Online Platforms*, INFORMS'17 in Houston, Texas
- 06/17** *Designing Reputation Systems for Online Platforms: Pairwise Comparisons*, the Marketplace Innovation Workshop in Stanford
- 04/17** *Reputation, Trust, and Markets*, Stanford MS&E 190
- 04/17** *Pairwise Comparisons for Online Reputation Systems*, Poster, Stanford Computer Forum
- 04/17** *Collaborative Optimization for Collective Decision-making in Continuous Spaces*, WWW'17 in Perth, Australia
- 12/15** *Impact of Dual Slope Path Loss on User Association in HetNets*, Globecom'15 Workshop on HetNets, in San Diego, CA

RELEVANT COURSEWORK

Graduate Courses (Stanford)

Advanced Algorithms for Machine Learning, Reinforcement Learning, Deep Learning for Natural Language Processing, Statistical Learning Theory, Approximation Algorithms, Convex Optimization, Large Markets and Games, Statistical Signal Processing, Linear Dynamical Systems, Wireless Communications, Law Order & Algorithms, Theory of Probability, Empirics of Online Marketplaces

Graduate Courses (UT Austin)

Probability & Stochastic Processes, Wireless Communications, Information Theory, Digital Communications

Undergraduate Courses (UT Austin)

Real Analysis, Algorithms, Digital Signal Processing, Real-time DSP Lab, Digital Image and Video Processing, Embedded and Real-Time Operating Systems Lab, Computer Architecture, Digital Logic Design, Foreign Policy, Philosophy, Economics

SKILLS

General Data science, Machine learning, Deep learning, Optimization, Mechanism Design, Signal Processing, Communications, Robotics, Web development

Languages & Tools Python, SQL, R, TensorFlow, C, C++, Java, Julia, MATLAB, JavaScript

Other Languages English (native), Hindi (fluent), Spanish (read)