

# Nikhil Garg

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## EDUCATION

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### Stanford University, August 2015 - Present

Stanford, CA

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

*MS, Electrical Engineering, 2017*

*Funded by NSF Graduate Research Fellowship*

### University of Texas at Austin, May 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

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### Microsoft

*Software Development Engineering Intern, Bing Ads*

Bellevue, WA

*May 2014 - August 2014*

### NASA Glenn Research Center

*Research Associate, NASA Space Academy*

Cleveland, OH

*June 2013 - August 2013*

## RESEARCH EXPERIENCE

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### Implementable Algorithms for Social Choice

*PhD Research Assistant under Prof. Ashish Goel*

Stanford

*September 2015 - Present*

### Designing Online Markets

*PhD Research Assistant under Prof. Ramesh Johari*

Stanford

*June 2016 - Present*

### Wireless Networks and Communications Group

*Research Assistant under Prof. Jeffrey Andrews*

UT Austin

*August 2014 - May 2015*

### Mobile and Pervasive Computing Group

*Research Assistant under Prof. Christine Julien*

UT Austin

*January 2012 - May 2013*

### Autonomous Vehicles Lab, Learning Agents Research Group

*Student - Freshmen Research Initiative*

UT Austin

*January 2012 - May 2012*

## POLICY EXPERIENCE

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### IEEE-USA Insight Magazine

*Monthly Column Writer*

*August 2015 - December 2015*

### IEEE-USA, Washington Internship for Students of Engineering Program

*Technology Policy Associate*

Washington, DC

*June 2015 - August 2015*

### Texas Senate

*Legislative Intern, State Senator Davis's Legislative Office*

Austin, TX

*August 2013 - December 2013*

### Strauss Center for International Security and Law

*Scholar, Next Generation Scholars Program*

UT Austin

*August 2013 - May 2014*

## TEACHING EXPERIENCE

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### Department of Electrical & Computer Engineering

Teaching Assistant for EE 306 (Intro to Computing) under Prof. Yale Patt

UT Austin

August 2013 - December 2013

### Department of Mathematics

Learning Assistant for Integral Calculus

UT Austin

January 2012 - May 2012

## PROFESSIONAL & RESEARCH ACTIVITIES

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### Talks

- *Rating Systems for Online Platforms: A Design via Comparisons*, INFORMS, 2017
- *Designing Reputation Systems for Online Platforms: Pairwise Comparisons*, Marketplace Innovation Workshop, 2017
- *Reputation, Trust, and Markets*, Stanford MS&E 190, 2017
- *Pairwise Comparisons for Online Reputation Systems (Poster)*, Stanford Computer Forum, 2017
- *Collaborative Optimization for Collective Decision Making in Continuous Spaces*, WWW, 2017
- *Impact of Dual Slope Path Loss on User Association in HetNets*, Globecom Workshop on HetNets, 2015

### Reviewing

- *Markets for Good's Good Data Grant*, 2016

### Organization

- 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 Activities

- **Jet Blue Technology Ventures**, *Machine Learning Due Diligence*, 2017 - Present
- **SNCF**, *Machine Learning/Digitalization*, 2017
- **DAS Worldwide | Wireless Everywhere**, *Wireless Engineering and Strategy*, 2016-2017

## PUBLICATIONS

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### Working Papers

3. "Word Embeddings as a Lens to Quantify 100 Years of Gender and Ethnic Stereotypes," *In Submission*, <https://arxiv.org/abs/1711.08412>.
2. "Rating Systems for Online Platforms: A Design via Comparisons," *Working Paper*.
1. "Markets for Public Goods," *Working Paper*.

### Conference

3. NG, Kamble, V., Goel, A., Marn, D., & Munagala, K. (2017). "Collaborative Optimization for Collective Decision-making in Continuous Spaces. In Proceedings of the 26th International Conference on World Wide Web.
2. NG, Singh, S., & Andrews, J. (2015). "Impact of Dual Slope Path Loss on User Association in HetNets." In 2015 IEEE Globecom Workshops (GC Wkshps) (pp. 1-6).

1. Lewandowski, B., Fortier, K., NG, Rielly, V., Mackey, J., Hearn, T., ...Fenton, B. "Use of electroencephalography and galvanic skin response in the prediction of an attentive cognitive state," presented at the Health and Human Performance Research Summit, Dayton, CO, 2015.

#### **Other**

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. Fortier, K., NG, and Pickering, E. (2013). "Multi-Modal, Multi-State, Real-Time Crew State Monitoring System," NASA Glenn Research Center, Space Academy Research Report.

### **RELEVANT COURSEWORK**

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#### **Graduate Courses (Stanford)**

Advanced Algorithms for Machine Learning, Reinforcement Learning, Deep Learning for NLP, Statistical Learning Theory, Approximation Algorithms, Convex Optimization, Statistical Signal Processing, Linear Dynamical Systems, Wireless Communications, Law Order & Algorithms, Theory of Probability

#### **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

### **TECHNICAL SKILLS**

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**General** Machine Learning, Deep Learning, Software, Optimization, Mechanism Design, Signal Processing, Communications, Robotics, Web development

**High-Level Languages** Python, Julia, MATLAB, C, C++, Java, JavaScript

### **LANGUAGES**

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**English** Native

**Hindi** Fluent

**Spanish** Read/Understand