

# Ravi Shroff

246 Greene Street, Office 202W  
New York, NY 10003

Phone: (212) 992-7398  
Email: ravi.shroff@nyu.edu

## Education

|  |      |
|--|------|
| M.S., Applied Urban Science and Informatics, NYU       | 2014 |
| Ph.D., Mathematics, UC San Diego                       | 2011 |
| B.S., Mathematics, Economics, University of Washington | 2005 |

## Academic Appointments

|  |                |
|--|----------------|
| Associate Professor of Applied Statistics, NYU   | 2023 - Present |
| Assistant Professor of Applied Statistics, NYU<br>Steinhardt School of Culture, Education, and Human Development<br>Center for Urban Science and Progress (affiliated appointment) | 2017 - 2023    |
| Senior Research Scientist, NYU   | 2016 - 2017    |
| Research Scientist, NYU<br>Center for Urban Science and Progress   | 2014 - 2016    |
| Postdoctoral Fellow, The Australian National University<br>Mathematical Sciences Institute   | 2011 - 2013    |

## Publications

### *Journal and Conference Publications*

1. S. Corbett-Davies, J. Gaebler, H. Nilforoshan, R. Shroff, S. Goel. The Measure and Mismeasure of Fairness. To appear in *Journal of Machine Learning Research*. (2023)
2. R. Shroff, K. Vamvourellis. Pretrial release judgments and decision fatigue. *Judgment and Decision Making*, Vol 17 (No. 6), 1176–1207. (2022)
3. H. Nilforoshan, J. Gaebler, R. Shroff, S. Goel. Causal Conceptions of Fairness and Their Consequences. *International Conference on Machine Learning (ICML 2022)*. (2022)
4. J. Gaebler, W. Cai, G. Basse, R. Shroff, S. Goel, J. Hill. A Causal Framework for Observational Studies of Discrimination. *Statistics and Public Policy*, Vol 9 (No. 1), 26–48. (2022)
5. A. Chohlas-Wood, M. Gerchick, S. Goel, A. Huq, A. Shoemaker, R. Shroff, K. Yao. Identifying and Measuring Excessive and Discriminatory Policing. *University of Chicago Law Review*, Vol 89 (No. 2), 441–475. (2022)

6. E. Pierson, C. Simoiu, J. Overgoor, S. Corbett-Davies, D. Jenson, A. Shoemaker, V. Ramachandran, P. Barghouty, C. Phillips, R. Shroff, S. Goel. A Large-Scale Analysis of Racial Disparities in Police Stops Across the United States. *Nature Human Behavior*, Vol 4 (No. 5), 736–745. (2020)
7. J. Jung, C. Concannon, R. Shroff, S. Goel, D. Goldstein. Simple Rules to Guide Expert Classifications. *Journal of the Royal Statistical Society: Series A*, Vol 183 (No. 3), 771–800. (2020)
8. J. Jung, R. Shroff, A. Feller, S. Goel. Bayesian Sensitivity Analysis for Offline Policy Evaluation. *Conference on Artificial Intelligence, Ethics, and Society (AIES 2020)*. (2020)
9. R. Shroff. Statistical Tests to Audit Investigative Stops. *Ohio State Journal of Criminal Law*, Vol 15 (No. 2), 565–571. (2018)
10. R. Shroff. Predictive Analytics for City Agencies: Lessons from Children’s Services. *Big Data*, Vol 5 (No. 3), 189–196. (2017)
11. S. Goel, M. Perelman, R. Shroff, D. Sklansky. Combatting Police Discrimination in the Age of Big Data. *New Criminal Law Review*, Vol 20 (No. 2), 181–232. (2017)
12. J. Jung, C. Concannon, R. Shroff, S. Goel, D. Goldstein. Creating Simple Rules for Complex Decisions. *Harvard Business Review OnPoint (Fall)*, 20–21. (2017)
13. S. Goel, J. Rao, R. Shroff. Precinct or Prejudice? Understanding Racial Disparities in New York City’s Stop-and-Frisk Policy. *Annals of Applied Statistics*, Vol 10 (No. 1), 365–394. (2016)
14. S. Goel, J. Rao, R. Shroff. Personalized Risk Assessments in the Criminal Justice System. *The American Economic Review (Papers and Proceedings)*, Vol 106 (No. 5), 119–123. (2016)
15. R. Wang, R. Shroff, Y. Zha, S. Seshan, M. Veloso. Indoor Trajectory Identification: Snapping With Uncertainty. *Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2015)*. (2015)
16. P. Ebenfelt, R. Shroff. Partial Rigidity for CR Embeddings of Real Hypersurfaces into Hyperquadrics with Small Signature Difference. *Comm. Anal. Geom*, Vol 23 (No. 1), 159–190. (2015)
17. S. Duong, J. Lebl, A. Minor, R. Shroff, Y. Zhang. CR Singular Images of Generic Submanifolds Under Holomorphic Maps. *Arkiv för Matematik*, Vol 52 (No.2), 301–327. (2014)

### *Under Review*

1. J. Jung, S. Corbett-Davies, J. Gaebler, R. Shroff, S. Goel. Mitigating Included- and Omitted-Variable Bias in Estimates of Disparate Impact.
2. J. Souto-Maior, R. Shroff. Adjusting for academic preparedness when estimating enrollment disparities in advanced high school coursework.
3. H. Warner, R. Shroff, R.A. Arenas, A. Zuanazzi, E.S. Jackson. Linguistic Attributes of Stuttered Speech.

*Book Chapters*

1. A. Chohlas-Wood, M. Gerchick, S. Goel, A. Huq, A. Shoemaker, R. Shroff, K. Yao. Empirical Approaches to Identify Systemic Discrimination in Policing. To appear in *Inequality Reader*. (2023+)
2. S. Goel, R. Shroff, J. Skeem, C. Slobogin. The Accuracy, Equity, and Jurisprudence of Criminal Risk Assessment. *Research Handbook on Big Data Law*. Edward Elgar Publishing, 9–28. (2021)

*Technical Reports*

1. A. Chohlas-Wood, S. Goel, A. Shoemaker, R. Shroff. An Analysis of the Metropolitan Nashville Police Department’s Traffic Stop Practices. Available here. (2018)

## Awards &amp; Fellowships

|   |           |
|---|-----------|
| ICML 2022 Outstanding Paper Award   | 2022      |
| Data & Society Research Institute Fellowship                              | 2016-2017 |
| Center for Urban Science and Progress Inaugural Fellowship, NYU           | 2013-2014 |
| Summer Graduate Teaching Fellowship, University of California, San Diego  | 2010      |
| Outstanding Teaching Assistant Award, University of California, San Diego | 2010      |

## Professional Activities

Reviewer for: *Journal of Policy Analysis and Management*, *Behavioral Sciences and the Law*, *ACM Transactions on Management Information Systems*, *Management Science*, *Science Advances*, *Journal of Empirical Legal Studies*, *Nature Neuroscience*, *Nature Human Behavior*, *Nature Computational Science*, *FAccT 2022*, *FAT\* 2020*, *FAT\* 2019*.

Conferences and Invited Sessions Organized:

“Data & Ethics: In the Public Sector for the Public Good?” (co-organizer, NYU 2019)

CMStatistics 2023, 2019, 2018 (session organizer)

Invited member:

Predictive Analytics Advisory Group

New York City’s Administration for Children’s Services (2018 - Present)

SMART Tool Advisory Committee

New York City’s Mayor’s Office of Criminal Justice (2020 - 2021)

Data Analytics Working Group

Center for the Advancement of Public Integrity, Columbia University (2016)

Expert Consultant, ACLU of Illinois (2016 - 2018)