# Miheer Dewaskar

Contact Information	214 Old Chemistry Box 90251	Email: milder Web: http	Email:miheer.dewaskar@duke.eduWeb:http://miheerdewaskar.com	
	Durham, NC 27708-0251. GitHub: github.com/		ub.com/miheerdew	
Research Positions	Postdoctoral AssociateJune 2021– currentDepartment of Statistical Science, Duke University, USA.Advisor: David Dunson			
	<b>Research Intern</b> Inria Rennes Bretagne-Atlantique res Advisors: Blaise Genest and Nathalie	earch center, France. e Bertrand	May – July 2015	
Education	Ph.D. in Statistics and Operations ResearchMay 2021University of North Carolina (UNC) at Chapel Hill, USA.Dissertation: High-dimensional problems in statistics and probability: correlation mining and distributed load balancingAdvisors: Shankar Bhamidi, Amarjit Budhiraja, and Andrew B. Nobel			
	M.Sc. in Computer Science Chennai Mathematical Institute, Indi Thesis: Algorithms for infinite durati Advisor: B Srivathsan	<i>a.</i> on games	June 2016	
	<b>B.Sc. Honours</b> in Mathematics and Chennai Mathematical Institute, Indi	l Computer Science a.	June 2014	
Teaching Experience	Mathematics of Regression, Duke Same responsibilities as below.	e University, USA.	Aug 2023 – current	
	Introduction to Data Models and Inference, UNC, USA. Aug – Dec 2019 Primary instructor for 45 undergraduate students. Created syllabus and course materials (homework, quizzes, exams), supervised teaching assistants, and employed <i>active learning</i> techniques.			
Research Interests	<ul> <li>Robust algorithms for machine learning and statistical inference</li> <li>Bayesian non-parametric methods</li> <li>Stochastic processes and their applications</li> </ul>			
Software	Developed R/C++ package CBCE for finding bimodules in multi-view data.			

### Research <u>Published</u>

- Publications Dewaskar M, Palowitch J, He M, Love MI, and Nobel AB. Finding Groups of Cross-Correlated Features in Bi-view Data. THE JOURNAL OF MACHINE LEARNING RESEARCH (2023), VOL. 24. (to appear; arXiv:2009.05079).
  - Bhamidi S, Budhiraja A, and **Dewaskar M**<sup>=</sup>. Near Equilibrium Fluctuations for Supermarket Models with Growing Choices. ANNALS OF APPLIED PROBABILITY (2022) VOL. 32 (NO. 3), 2083-2138. DOI: 10.1214/21-AAP1729.
  - Goyal M, Dewaskar M, and Duggirala PS. NExG: Provable and Guided State Space Exploration of Neural Network Control Systems using Sensitivity Approximation. IEEE TRANSACTIONS ON COMPUTER-AIDED DESIGN OF INTEGRATED CIR-CUITS AND SYSTEMS (2022). DOI: 10.1109/TCAD.2022.3197524.
  - Bertrand N, **Dewaskar M**<sup>=</sup>, Genest B<sup>=</sup>, Gimbert H, and Godbole A. Controlling a Population. LOGICAL METHODS IN COMPUTER SCIENCE (2019), Vol. 15, ISSUE 3. DOI: 10.23638/LMCS-15(3:6)2019.
  - Bertrand N, **Dewaskar M**<sup>=</sup>, Genest B<sup>=</sup>, and Gimbert H. Controlling a Population. 28TH INTERNATIONAL CONFERENCE ON CONCURRENCY THEORY (CONCUR 2017). DOI: 10.4230/LIPICS.CONCUR.2017.12.

#### Submitted Articles and Preprints

- **Dewaskar M\***, Tosh C\*, Knoblauch J, and Dunson DB. Robustifying Likelihoods by Optimistically Re-weighting Data. Under revision for THE JOURNAL OF AMERI-CAN STATISTICAL ASSOCIATION ARXIV:2303.10525.
- Buch D\*, **Dewaskar M**\*, and Dunson DB. Bayesian Level-Set Clustering. Submitted to THE JOURNAL OF AMERICAN STATISTICAL ASSOCIATION ARXIV:2403.04912v1.

\* denotes joint first authors.

<sup>=</sup> denotes alphabetical author order and primary contribution.

Honors and Awards	<b>Cambanis-Hoeffding-Nicholson award</b> , UNC Chapel Hill. Department-wide award to the top two students in the first year.	
	Medal of Excellence, Chennai Mathematical Institute. Awarded to the top ranking student in the program.	2016
	<b>Charpak Scholarship</b> , <i>Embassy of France in India</i> . Awarded to pursue research in a French laboratory.	2015
	<b>INSPIRE Scholarship</b> , Department of Science and Technology, India. Awarded to top 1%-tile high school students across the country.	2011
Referee Work	Journal: Mathematics of Operations Research (2023).	

- 1 "Fitting models with misspecified supports using Wasserstein coarsened posteriors". Bayesian Young Statisticians Meeting, November 2023 (contributed online conference talk).
  - 2 "Robustifying Likelihoods by Optimistically Re-weighting Data". International Indian Statistical Association Conference, Colorado School of Mines, USA, June 2023 (invited conference talk).
  - 3 "Robustifying Likelihoods by Optimistically Re-weighting Data". LIFEPLAN meeting, University of Helsinki, Finland, March 2023 (online).
  - 4 "Independence,  $L_p$  spaces, and Expectation Inequalities". Guest Lecture in Probability and Measure Theory, Duke University, USA, September 2022.
  - 5 "Groupwise Cross-Correlation Mining in Bi-view Data". Indian Institute of Science Education and Research (IISER) Pune Seminar, India, August 2022.
  - 6 "Guided State-Space Exploration in Closed Loop Control Systems Using Sensitivity Approximation". Systems and Control Engineering Seminar, Indian Institute of Techology (IIT) Bombay, India, July 2022.
  - 7 "Finding Significant Communities in Cross-Correlation Networks derived from Multi-view Data". Statistical and Applied Mathematical Sciences Institute (SAMSI) Seminar, USA, January 2021.
  - 8 "Near Equilibrium fluctuations for Supermarket models with growing choices". Bernoulli-IMS One World Symposium 2020, August 2020 (contributed online conference talk).
  - 9 "Asymptotic analysis of the Power of Choice phenomenon for Queuing Models". UNC–Duke Probability Seminar, USA, January 2020.
  - 10 "Detecting Bimodules in eQTL data: finding mutually correlated sets across two data types". UNC Computational Medicine meeting, USA, April 2019.
  - 11 "Controlling a population of Markov Decision Processes". IRISA Lab and Inria Rennes Bretagne-Atlantique research center team SUMO Retreat, France, June 2015.

Talks

Poster Presentation	"Robustifying Likelihoods by Optimistically Re-weighting Data" tistical Meeting (JSM) at Toronto, Canada, August 2023.	". Joint Sta-	
	"Robustifying Likelihoods by Optimistically Re-weighting Data sion meeting on Data Science: Probabilistic and Optimizati (DSPOM2023), International Center for Theoretical Science (I- July 2023.	ta". Discus- ion methods CTS), India,	
	"Robustifying Likelihoods by Optimistically Re-weighting Data Naval Research's (ONR) Mathematical Data Science program rev Stanford University, USA, April 2023.	a". Office of view meeting,	
	"Finding stable groups of Cross-Correlated features in Bi-view I presentation and poster at Joint Statistical Meeting (JSM) at Was USA, August 2022.	Data". Speed shington DC,	
Professional Activities	• Memberships: International Society for Bayesian Analysis		
	• Outreach: Mentor (2022) and Judge (2023) at Duke Data Fest. UNC Science Expo (2019).		
	• Session chair: International Indian Statistical Association Colorado School of Mines, USA.	Conference (2023),	
Workshop participation	Preparing to Teach, University of Toronto Scarborough Day-long workshop to train new instructors to teach statistics at the undergraduate level.	Aug 2023	
	Undergraduate STEM Mentoring, Duke University Weekly meetings to learn about evidence-based tools for effective mentoring led by Dr. Joan Durso.	Sep – Nov 2022	
	Teaching Assistant Training, UNC Chapel HillAug 2Two semester course on evidence-based methodsfor pedagogy, taught by Dr. Brian Rybarczyk.	2017 – May 2018	

Research References David B. Dunson

Arts and Sciences Distinguished Professor of Statistical Science & Mathematics Department of Statistical Science Duke University, Durham NC. Email: dunson@duke.edu

### Amarjit Budhiraja

Senior Associate Dean for Academic and<br/>Faculty AffairsProfessorStatistics and Operations ResearchUniversityUniversity of North Carolina, Chapel Hill.Email: blEmail: budhiraj@email.unc.eduEmail: bl

# Teaching

#### Reference

# Mine Çetinkaya-Rundel

Professor of the Practice Department of Statistical Science Duke University, Durham NC. Email: mc301@duke.edu

last updated: March 22, 2024

### Andrew B. Nobel

Paul Ziff Distinguished Professor Statistics and Operations Research University of North Carolina, Chapel Hill. Email: nobel@email.unc.edu

## Shankar Bhamidi

Statistics and Operations Research University of North Carolina, Chapel Hill. Email: bhamidi@email.unc.edu