

# Miheer Dewaskar

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<b>Contact Information</b>	214 Old Chemistry Box 90251 Durham, NC 27708-0251.	<i>Email:</i> <a href="mailto:miheer.dewaskar@duke.edu">miheer.dewaskar@duke.edu</a> <i>Web:</i> <a href="http://miheerdewaskar.com">http://miheerdewaskar.com</a> <i>GitHub:</i> <a href="https://github.com/miheerdew">github.com/miheerdew</a>
<b>Research Positions</b>	<b>Postdoctoral Associate</b> <a href="#">Department of Statistical Science</a> , Duke University, USA. Advisor: <a href="#">David Dunson</a>	<b>June 2021– current</b>
	<b>Research Intern</b> <a href="#">Inria Rennes Bretagne-Atlantique research center</a> , France. Advisors: <a href="#">Blaise Genest</a> and <a href="#">Nathalie Bertrand</a>	<b>May – July 2015</b>
<b>Education</b>	<b>Ph.D.</b> in Statistics and Operations Research <i>University of North Carolina (UNC) at Chapel Hill, USA.</i> Dissertation: <a href="#">High-dimensional problems in statistics and probability: correlation mining and distributed load balancing</a> Advisors: <a href="#">Shankar Bhamidi</a> , <a href="#">Amarjit Budhiraja</a> , and <a href="#">Andrew B. Nobel</a>	<b>May 2021</b>
	<b>M.Sc.</b> in Computer Science <i>Chennai Mathematical Institute, India.</i> Thesis: <a href="#">Algorithms for infinite duration games</a> Advisor: <a href="#">B Srivathsan</a>	<b>June 2016</b>
	<b>B.Sc. Honours</b> in Mathematics and Computer Science <i>Chennai Mathematical Institute, India.</i>	<b>June 2014</b>
<b>Teaching Experience</b>	<b>Mathematics of Regression</b> , Duke University, USA. Same responsibilities as below.	<b>Aug 2023 – current</b>
	<b>Introduction to Data Models and Inference</b> , UNC, USA. Primary instructor for 45 undergraduate students. Created syllabus and course materials (homework, quizzes, exams), supervised teaching assistants, and employed <i>active learning</i> techniques.	<b>Aug – Dec 2019</b>
<b>Research Interests</b>	<ul style="list-style-type: none"><li>• Robust algorithms for machine learning and statistical inference</li><li>• Bayesian non-parametric methods</li><li>• Stochastic processes and their applications</li></ul>	
<b>Software</b>	Developed R/C++ package <a href="#">CBCE</a> for finding bimodules in multi-view data.	

<b>Research Publications</b>	<b><u>Refereed Publications</u></b>
	<b>Dewaskar M</b> , Palowitch J, He M, Love MI, and Nobel AB. Finding Groups of Cross-Correlated Features in Bi-view Data. Accepted: THE JOURNAL OF MACHINE LEARNING RESEARCH. <a href="#">ARXIV:2009.05079</a> .
	Bhamidi S, Budhiraja A, and <b>Dewaskar M<sup>=</sup></b> . Near Equilibrium Fluctuations for Supermarket Models with Growing Choices. ANNALS OF APPLIED PROBABILITY (2022) VOL. 32 (NO. 3), 2083-2138. DOI: <a href="#">10.1214/21-AAP1729</a> .
	Goyal M, <b>Dewaskar M</b> , 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 CIRCUITS AND SYSTEMS (2022). DOI: <a href="#">10.1109/TCAD.2022.3197524</a> .
	Bertrand N, <b>Dewaskar M<sup>=</sup></b> , Genest B <sup>=</sup> , Gimbert H, and Godbole A. Controlling a Population. LOGICAL METHODS IN COMPUTER SCIENCE (2019), VOL. 15, ISSUE 3. DOI: <a href="#">10.23638/LMCS-15(3:6)2019</a> .
	Bertrand N, <b>Dewaskar M<sup>=</sup></b> , Genest B <sup>=</sup> , and Gimbert H. Controlling a Population. 28TH INTERNATIONAL CONFERENCE ON CONCURRENCY THEORY (CONCUR 2017). DOI: <a href="#">10.4230/LIPIcs.CONCUR.2017.12</a> .

#### **Submitted Articles and Preprints**

- Dewaskar M<sup>\*</sup>**, Tosh C<sup>\*</sup>, Knoblauch J, and Dunson DB. Robustifying Likelihoods by Optimistically Re-weighting Data. Under review: THE JOURNAL OF AMERICAN STATISTICAL ASSOCIATION. [ARXIV:2303.10525](#).
- Buch D<sup>\*</sup>, **Dewaskar M<sup>\*</sup>**, and Dunson DB. Bayesian Level-set Clustering. In preparation.

\* denotes joint first authors.

= denotes alphabetical author order and primary contribution.

<b>Honors and Awards</b>	<b>Cambanis-Hoeffding-Nicholson award</b> , <i>UNC Chapel Hill</i> . <b>2017</b>
	Department-wide award to the top two students in the first year.
	<b>Medal of Excellence</b> , <i>Chennai Mathematical Institute</i> . <b>2016</b>
	Awarded to the top ranking student in the program.
	<b>Charpak Scholarship</b> , <i>Embassy of France in India</i> . <b>2015</b>
	Awarded to pursue research in a French laboratory.
	<b>INSPIRE Scholarship</b> , <i>Department of Science and Technology, India</i> . <b>2011</b>
	Awarded to top 1%-tile high school students across the country.
<b>Referee Work</b>	Journal: Mathematics of Operations Research (2023).

## Talks

- 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 Technology \(IIT\) 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.

## Poster Presentation

- 1 “Robustifying Likelihoods by Optimistically Re-weighting Data”. [Joint Statistical Meeting \(JSM\)](#) at Toronto, Canada, August 2023.
- 2 “Robustifying Likelihoods by Optimistically Re-weighting Data”. [Discussion meeting on Data Science: Probabilistic and Optimization methods \(DSPOM2023\)](#), [International Center for Theoretical Science \(ICTS\)](#), India, July 2023.
- 3 “Robustifying Likelihoods by Optimistically Re-weighting Data”. Office of Naval Research’s (ONR) Mathematical Data Science program review meeting, Stanford University, USA, April 2023.
- 4 “Finding stable groups of Cross-Correlated features in Bi-view Data”. Speed presentation and poster at [Joint Statistical Meeting \(JSM\)](#) at Washington DC, USA, August 2022.

## 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 Conference](#) (2023), Colorado School of Mines, USA.

## Workshop

participation	<a href="#">Preparing to Teach</a> , University of Toronto Scarborough Day-long workshop to train new instructors to teach statistics at the undergraduate level.	Aug 2023
	<a href="#">Undergraduate STEM Mentoring</a> , Duke University Weekly meetings to learn about evidence-based tools for effective mentoring led by <a href="#">Dr. Joan Durso</a> .	Sep – Nov 2022
	<a href="#">Teaching Assistant Training</a> , UNC Chapel Hill Two semester course on evidence-based methods for pedagogy, taught by <a href="#">Dr. Brian Rybarczyk</a> .	Aug 2017 – May 2018

**Research  
References**

**David B. Dunson**

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of Statistical Science & Mathematics*  
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Duke University, Durham NC.  
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**Andrew B. Nobel**

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Statistics and Operations Research  
University of North Carolina, Chapel Hill.  
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**Teaching  
Reference**

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