

# Miheer Dewaskar

---

|                            |   |   |
|----------------------------|---|---|
| <b>Contact Information</b> | 214 Old Chemistry<br>Box 90251<br>Durham, NC 27708-0251.  | <i>Email:</i> <a href="mailto:miheer.dewaskar@duke.edu">miheer.dewaskar@duke.edu</a><br><i>Web:</i> <a href="http://miheerdewaskar.com">http://miheerdewaskar.com</a><br><i>GitHub:</i> <a href="https://github.com/miheerdew">github.com/miheerdew</a> |
| <b>Research Positions</b>  | <b>Postdoctoral Associate</b><br><a href="#">Department of Statistical Science</a> , Duke University, USA.<br>Advisor: <a href="#">David Dunson</a>   | <b>June 2021– current</b>   |
|                            | <b>Research Intern</b><br><a href="#">Inria Rennes Bretagne-Atlantique research center</a> , France.<br>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<br><i>University of North Carolina (UNC) at Chapel Hill, USA.</i><br>Dissertation: <a href="#">High-dimensional problems in statistics and probability: correlation mining and distributed load balancing</a><br>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<br><i>Chennai Mathematical Institute, India.</i><br>Thesis: <a href="#">Algorithms for infinite duration games</a><br>Advisor: <a href="#">B Srivathsan</a>  | <b>June 2016</b>  |
|                            | <b>B.Sc. Honours</b> in Mathematics and Computer Science<br><i>Chennai Mathematical Institute, India.</i>   | <b>June 2014</b>  |
| <b>Teaching Experience</b> | <b>Mathematics of Regression</b> , Duke University, USA.<br>Same responsibilities as below.   | <b>Aug 2023 – current</b>   |
|                            | <b>Introduction to Statistics</b> , UNC at Chapel Hill, USA.<br>Primary instructor for 45 undergraduate students.<br>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.  |   |

**Research  
Publications**

**Refereed Publications**

- 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](https://doi.org/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 CIRCUITS AND SYSTEMS* (2022). DOI: [10.1109/TCAD.2022.3197524](https://doi.org/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](https://doi.org/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](https://doi.org/10.4230/LIPIcs.CONCUR.2017.12).

**Submitted Articles and Preprints**

- Dewaskar M**, Palowitch J, He M, Love MI, and Nobel AB. Finding Groups of Cross-Correlated Features in Bi-view Data. Under revision: *THE JOURNAL OF MACHINE LEARNING RESEARCH*. [ARXIV:2009.05079](https://arxiv.org/abs/2009.05079).
- 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, SERIES B*. [ARXIV:2303.10525](https://arxiv.org/abs/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.

**Honors and  
Awards**

- Cambanis-Hoeffding-Nicholson award**, *UNC Chapel Hill*. **2017**  
Department-wide award to the top two students in the first year.
- Medal of Excellence**, *Chennai Mathematical Institute*. **2016**  
Awarded to the top ranking student in the program.
- Charpak Scholarship**, *Embassy of France in India*. **2015**  
Awarded to pursue research in a French laboratory.
- INSPIRE Scholarship**, *Department of Science and Technology, India*. **2011**  
Awarded to top 1%-tile high school students across the country.

**Referee  
Work**

Journal: *Mathematics of Operations Research* (2023).

## Talks

- 1 “Robustifying Likelihoods by Optimistically Re-weighting Data”. [International Indian Statistical Association Conference](#), Colorado School of Mines, USA, June 2023 (invited conference talk).
- 2 “Robustifying Likelihoods by Optimistically Re-weighting Data”. [LIFEPLAN](#) meeting, University of Helsinki, Finland, March 2023 (online).
- 3 “Independence,  $L_p$  spaces, and Expectation Inequalities”. Guest Lecture in Probability and Measure Theory, Duke University, USA, September 2022.
- 4 “Groupwise Cross-Correlation Mining in Bi-view Data”. [Indian Institute of Science Education and Research \(IISER\) Pune Seminar](#), India, August 2022.
- 5 “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.
- 6 “Finding Significant Communities in Cross-Correlation Networks derived from Multi-view Data”. [Statistical and Applied Mathematical Sciences Institute \(SAMSI\) Seminar](#), USA, January 2021.
- 7 “Near Equilibrium fluctuations for Supermarket models with growing choices”. [Bernoulli-IMS One World Symposium 2020](#), August 2020 (contributed online conference talk).
- 8 “Asymptotic analysis of the Power of Choice phenomenon for Queuing Models”. [UNC–Duke Probability Seminar](#), USA, January 2020.
- 9 “Detecting Bimodules in eQTL data: finding mutually correlated sets across two data types”. UNC Computational Medicine meeting, USA, April 2019.
- 10 “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**

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

---

*last updated: September 7, 2023*