

MANUSHI WELANDawe

As a statistician and data scientist, I focus on building fast, robust methods that bridge the gap between theory and real-world data challenges. My work combines scalable Bayesian inference, stochastic optimization, and practical modeling tools to accelerate scientific discovery and decision-making across different fields. I'm passionate about creating solutions that are both statistically sound and computationally efficient.



EXPERIENCE

Present 2020	Graduate Research Fellow Boston University	📍 Boston, MA	<ul style="list-style-type: none">• Developing novel diagnostics for detecting stationarity in variational and Bayesian inference contexts• Developed a robust framework for reliable variational inference with convergence diagnostics and variational approximation assessment
2023	Senior Teaching Fellow Boston University	📍 Boston, MA	<ul style="list-style-type: none">• Instructor for MA 214: Applied Statistics, providing instruction and hands-on support to students; evaluated and graded final group projects to assess applied statistical analysis skills
2022	NSF-MSG Intern Argonne National Laboratory	📍 Lemont, IL	<ul style="list-style-type: none">• Investigated theoretical and empirical properties of gradient estimators in zeroth-order/derivative-free stochastic optimization
2021 2019	Graduate Teaching Fellow Boston University	📍 Boston, MA	<ul style="list-style-type: none">• Led 3 discussions each week for graduate level course MA 585 Time series and Forecasting• Led 5 discussions each week for MA113 Elementary Statistics• Led 4 discussions each week for MA116 Statistics II
2019 2018	Graduate Researcher University of Rhode Island	📍 Kingston, RI	<ul style="list-style-type: none">• Designed a Bayesian mixed-effects zero-inflated beta regression model for longitudinal microbiome data with missing-at-random patterns, validated via simulations and applied to real-world datasets
2019 2018	Graduate Administrative Assistant University of Rhode Island	📍 Kingston, RI	<ul style="list-style-type: none">• Organized and conducted workshops on R, SAS, and SPSS for the University of Rhode Island (URI) faculty, graduate students, and undergraduate community• Provided statistical consultation to local researchers on projects utilizing R, SAS, and SPSS
2017	Graduate Teaching Assistant University of Rhode Island	📍 Kingston, RI	<ul style="list-style-type: none">• Led 5 discussions per week for STA 220 Statistics in Modern Society• Graded final semester exams for STA 308 Introductory Statistics
2017	Junior Analyst Peppercube Consultants (Pvt.) Ltd.	📍 Sri Lanka	<ul style="list-style-type: none">• Conducted statistical analysis for market research to gain insights in existing or newly developed products and services
2016	Teaching Assistant University of Sri Jayewardenepura	📍 Sri Lanka	<ul style="list-style-type: none">• Led discussions, graded homework, and proctored final semester exams for STA 122/221 Data Analysis I/II

CONTACT

- ✉ manushiw@bu.edu
- ☎ 4012123454
- 🌐 [Manushi22](#)
- 🏠 [manushiw.com](#)
- in [manushiwelandawe](#)

EDUCATION

- PhD., Statistics
Boston University
Expected 2025
- MS., Statistics
University of Rhode Island
2017 – 2019
- BS., Statistics
University of Sri Jayewardenepura
2011 – 2015

LANGUAGE SKILLS



AWARDS AND SERVICES

- Mathematical Science Graduate Internship
National Science Foundation (2022)
- Reviewer
AISTATS (2025, 2024) and NeurIPS (2024)
- Mentor
Undergraduate and Graduate Students

INTERESTS

- 🧭 Hiking
- 🏊 Swimming
- 🧘 Yoga



PUBLICATIONS

- 2024 • **A framework for improving the reliability of black-box variational inference** Journal of Machine Learning Research
- Authored with Michael Riis Andersen, Aki Vehtari, and Jonathan H. Huggins.
- 2021 • **Challenges and opportunities in high dimensional variational inference** Advances in Neural Information Processing Systems 34 (NeurIPS 2021)
- Authored with Akash Kumar Dhaka, Alejandro Catalina, Michael R Andersen, Jonathan Huggins, and Aki Vehtari
- 2020 • **A Survival Analysis of the Gulf Stream Warm Core Rings** Journal of Geophysical Research: Oceans
- Authored with E. Nishchitha S. Silva, Avijit Gangopadhyay, Gavin Fay, Glen Gawarkiewicz, Adrienne M. Silver, Mahmud Monim, and Jenifer Clark
- 2019 • **Effects of early life NICU stress on the developing gut microbiome** Developmental Psychobiology
- Authored with Amy L. D'Agata, Jing Wu, Samia V. O. Dutra, Bradley Kane, and Maureen W. Groer



INVITED TALKS

- 2024 • **A Framework to Enhance the Reliability and Detect Convergence of Black-box Variational Inference**
- New England Statistics Symposium
- 2022 • **Robust, Automated, and Accurate Black-box Variational Inference**
- Bayes Reading Group, Flatiron Institute