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	•	Graduate Research Fellow Boston University Ø Boston, MA
1 2020		 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 Ø Boston, MA
		• 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
		 Investigated theoretical and empirical properties of gradient estimators in zeroth- order/derivative-free stochastic optimization
2021	•	Graduate Teaching Fellow Boston University ØBoston, MA
2019		 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	•	Graduate Researcher University of Rhode Island Vingston, RI
2018		 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
019	•	Graduate Administrative Assistant University of Rhode Island
2018		 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
		 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
		 Conducted statistical analysis for market research to gain insights in existing or newly developed products and services
2016	•	Teaching Assistant University of Sri Jayewardenepura Q Sri Lanka
		 Led discussions, graded homework, and proctored final semester exams for STA 122/221 Data Analysis I/II

CONTACT

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- Manushi22
- nanushiw.com

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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

Python
R
Julia
Stan
SQL

AWARDS AND SERVICES

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

INTERESTS

⅍i HikingSwimming☆ Yoga

PUBLICATIONS

2024	•	A framework for improving the reliability of black- box variational inferenceJournal of Machine Learning Research	
		• Authored with Michael Riis Andersen, Aki Vehtari, and Jonathan H. Huggins.	
2021		Challenges and opportunities in high dimensional variational inferenceAdvances 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 Journal of Geophysical Research: Core Rings 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 microbiomeDevelopmental Psychobiology	
		• Authored with Amy L. D'Agata, Jing Wu, Samia V. O. Dutra, Bradley Kane, and Maureen W. Groer	
	Ē	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	
		Raylos Deading Croup, Elatiron Instituto	

Bayes Reading Group, Flatiron Institute