Ameer Dharamshi

PHD STUDENT · BIOSTATISTICS

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Education

University of Washington *Seattle, WA, USA*
PHD IN BIOSTATISTICS *September 2022 - Present*
- Advisors: Daniela Witten and Jon Wakefield

University of Toronto *Toronto, ON, Canada*
MSC IN STATISTICAL SCIENCES *September 2019 - June 2020*

University of Waterloo *Waterloo, ON, Canada*
BMATH IN MATHEMATICS/CPA *September 2013 - June 2018*
- Minors in Statistics and Computer Science

Professional Experience

2022-Present **Graduate Research Assistant**, Department of Biostatistics, University of Washington
2020-2022 **Research & Data Consultant**, Global Education Monitoring Report, UNESCO
2021-2022 **Part-time Researcher**, Bayesian Demography Lab, University of Toronto
2018-2019 **Consultant**, Deloitte Canada

Publications

PUBLISHED

Dharamshi, A., Neufeld, A., Motwani, K., Gao, L. L., Witten, D. & Bien, J. (2024). Generalized data thinning using sufficient statistics. *To appear in Journal of the American Statistical Association*. Available from: `https://doi.org/10.48550/arXiv.2303.12931`.

Neufeld, A., **Dharamshi, A.**, Gao, L. L., & Witten, D. (2024). Data thinning for convolution-closed distributions. *Journal of Machine Learning Research*, 25(57), 1-35. Available from: `https://doi.org/10.48550/arXiv.2301.07276`.

Dharamshi, A., Ngo, V., & Rosenthal, J. S. (2023). Sampling by divergence minimization. *Communications in Statistics - Simulation and Computation*, 1-25. Available from: `https://doi.org/10.1080/03610918.2023.2199352`.

Dharamshi, A., Barakat, B., Alkema, L. & Antoninis, M. (2022) A Bayesian model for estimating Sustainable Development Goal indicator 4.1.2: School completion rates. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 71(5), 1822–1864. Available from: `https://doi.org/10.1111/rssc.12595`.

PREPRINTS

Dharamshi, A., Alexander, M., Winant, C. & Barbieri, M. (2023). Jointly estimating subnational mortality for multiple populations. *arXiv preprint*. Available from: `https://doi.org/10.48550/arXiv.2310.03113`

Dharamshi, A., Antoninis, M., Montoya, S. & Barakat, B. (2023). A Bayesian cohort model for estimating out-of-school rates and populations. *SocArXiv preprint*. Available from: `https://osf.io/preprints/socarxiv/sqwb2/`

Scholarships & Awards

2024-2027 **NSF-HNDS Grant (Senior Investigator)**, National Sciences Foundation

2024	**Student Paper Award**, JSM Statistical Learning and Data Science Section
	CSSS Travel Award (EPC 2024), University of Washington
2023-2026	**NSERC PGS D**, Natural Sciences and Engineering Research Council of Canada
2022	**Top Scholar Recruitment Award**, University of Washington
	Faculty of Arts and Science Doctoral Recruitment Award (Declined), University of Toronto
2013-2017	**Faculty of Mathematics Entrance Scholarship**, University of Waterloo
2013	**President's Scholarship of Distinction**, University of Waterloo

Presentations

INVITED TALKS

2024

Generalized data thinning using sufficient statistics. JSM 2024. (August)

Data thinning with applications in the health sciences. SSC Annual Meeting 2024. (April)

2023

Generalized data thinning using sufficient statistics. G-Research ML College Talk. (August)

Generalized data thinning using sufficient statistics. International Seminar on Selective Inference. (April)

2022

Estimating SDG 4 Indicators with a Bayesian Modelling Framework: Completion and Out-of-School Rates. 9th Annual Meeting of the Technical Cooperation Group on SDG4 Indicators (TCG): Joint EMIS and Surveys Working Group. (November)

A Bayesian Cohort Model for Estimating SDG Indicator 4.1.4: Out-of-School Rates. STAB Working Group, University of Washington. (November)

2021

Estimating Out-of-School Rates. Bayes Working Group, University of Massachusetts Amherst. (December)

Out-of-School Rate Modelling. 8th Annual Meeting of the Technical Cooperation Group on SDG4 Indicators (TCG): Household Surveys Working Group. (October)

Adjusted Bayesian Completion Rates (ABC). Bayes Working Group, University of Massachusetts Amherst. (June)

CONTRIBUTED PRESENTATIONS

2024

Estimating the Composition of the Cystic Fibrosis Pulmonary Microbiome. Poster and thematic poster session speaker: North American Cystic Fibrosis Conference 2024

A Principled Approach to Model Validation in the Context of Estimating Age-Specific Rates. Poster: European Population Conference 2024

2022

A Bayesian Hierarchical Model for Jointly Estimating Subnational Mortality for Multiple Populations. Oral presentations: European Population Conference 2022, 6th HMD Symposium, PAA Annual Meeting.

2019

CSEye: A Proposed Solution for Accurate and Accessible One-to-Many Face Verification. Poster: AAAI-2019.

Teaching Experience

University of Washington

Spring 2024	**DATA 558: Statistical Machine Learning for Data Scientists**, Teaching Assistant
Winter 2024	**BIOST 515: Biostatistics II**, Teaching Assistant

University of Toronto

Summer 2020	**STA 302: Methods of Data Analysis I**, Teaching Assistant
Winter 2020	**STA 238: Probability, Statistics and Data Analysis II**, Teaching Assistant
Fall 2019	**STA 237: Probability, Statistics and Data Analysis I**, Teaching Assistant

University of Waterloo

Summer 2015	**MATH 127: Calculus 1 for the Sciences**, Teaching Assistant
Fall 2014	**MATH 135: Algebra for Honours Mathematics**, Teaching Assistant

Outreach & Professional Development

PEER REVIEW

Demographic Research, Electronic Journal of Statistics

COMMUNITY SERVICE

2024-Present	**Student Seminar Organizer**, Department of Biostatistics, University of Washington
2023-Present	**EPTEC Committee Member**, Department of Biostatistics, University of Washington
2023-Present	**PARS Reviewer**, Department of Biostatistics, University of Washington
2022-2023	**EDI Committee Member**, Department of Biostatistics, University of Washington

Additional Information

- Technical Skills: R/RMarkdown, Stan, Python, SQL, C/C++, MATLAB, Julia
- General Skills: LaTeX and Microsoft Office
- Languages: English (native), French (basic)
- Hobbies: reading, squash, tennis, skating, baking, board games