Priyonto Saha

www.p-saha.com | priyonto.saha@mail.utoronto.ca | Priyonto Saha | P-Saha

Education

- **University of Toronto, Dalla Lana School of Public Health** *September 2023 – Present*
  Master of Science
  Biostatistics – Data Science and Artificial Intelligence Option
  ◦ Thesis Supervision by Dr. Kuan Liu
  ◦ GPA: 4.00/4.00

- **University of Waterloo** *September 2018 – October 2023*
  Honours Bachelor of Mathematics with Distinction, Co-operative Program
  Triple Major in Biostatistics, Computational Mathematics, and Combinatorics & Optimization
  ◦ Cumulative Average: 82.9%

Publications

C = Conference, J = Peer-Reviewed Journal, P = Preprint

[C.1] **Saha, P.**, et al. (2024). **Predicting Time to Diabetes Diagnosis Using Random Survival Forests**. *46th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, p. 70. July 15 - 19, Orlando, Florida, USA.

[C.2] **Saha, P.**, et al. (2024). **Using Multi-Level Collaborative Learning to Investigate Long COVID Causality**. *2024 SORA-TABA Annual Workshop & DLSPH Biostatistics Research Day*, May 13, Toronto, Ontario, Canada.

[C.3] **Saha, P.**, et al. (2024). **Equitable Long COVID Characterization at a Global Scale**. *Institute for Pandemics 2024 Interdisciplinary Symposium*, April 18, Toronto, Ontario, Canada. [Awarded 3rd Place]

[J.1] Liu, N., Plouffe, R. A., Liu, J. J. W., Nouri, M. S., **Saha, P.**, Gargala, D., Davis, B. D., Nazarov, A., Richardson, J. D. (2024). **Determinants of Burnout in Canadian health care workers during the COVID-19 pandemic**. *European Journal of Psychotraumatology*, Vol. 15, Issue 1. https://doi.org/10.1080/20008066.2024.2351782

[P.1] **Saha, P.**, et al. (2024). **Predicting Time to Diabetes Diagnosis Using Random Survival Forests**. p. 2024.02.03.24302304. medRxiv. https://doi.org/10.1101/2024.02.03.24302304

[J.2] St. Cyr, K., Nazarov, A., Le, T., Nouri, M. S., **Saha, P.**, Forchuk, C. A., et al. (2023). **Correlates of cannabis use in a sample of mental health treatment-seeking Canadian armed forces members and veterans**. *BMC Psychiatry*, Vol. 23, Article number 836. https://doi.org/10.1186/s12888-023-05237-2

[C.4] Davis, B., Samadieh, M., Houle, S., **Saha, P.**, Du, Y., Nazarov, A., Richardson, J. D. (2023). **Network analysis exploring the association between posttraumatic stress disorder and moral injury symptoms in Veterans**. *Canadian Institute for Military and Veteran Health Research (CIMVHR) Forum 2023*, p. 122. October 16 - 18, Ottawa-Gatineau, Ontario, Canada.

[C.5] Dempster, K., St. Cyr, K., Davis, B., **Saha, P.**, Wanklyn, S., Nazarov, A., Richardson, J.D. (2023). **Investigating sex-based differences in chronic pain and mental health comorbidities in treatment seeking Canadian Armed Forces Veterans**. *Canadian Institute for Military and Veteran Health Research (CIMVHR) Forum 2023*, p. 117. October 16 - 18, Ottawa-Gatineau, Ontario, Canada.

Professional Experience

- **HIVE Lab, Dalla Lana School of Public Health, University of Toronto [🌐]** *September 2023 – August 2024*
  Data Science Research Student
  ◦ Collaborated with the Clinical Augmented Intelligence Group at Harvard to improve long COVID characterization.
  ◦ Outlined and drafted a manuscript for a systematic scoping review on collaboration and data sharing in Canada.
  ◦ Provided statistical consulting for interdisciplinary research teams looking to apply AI methods in public health.

- **MacDonald Franklin OSI Research Centre, St Joseph's Health Care London [🌐]** *May 2022 – August 2023*
  Data Science Research Assistant
  ◦ Conducted daily statistical analyses with tasks such as pre-processing, multiple imputation, and modeling.
  ◦ Developed an NLP pipeline to process clinician notes for mental health triage and treatment-outcome prediction.
  ◦ Explored longitudinal trends in anxiety, depression, and PTSD of veterans during the pandemic with mixed models.
  ◦ Integrated datasets from five countries to design an international data dictionary using feature engineering.

- **TELUS Health [🌐]** *January 2021 – April 2021*
  Software Developer
  ◦ Developer in test for Medesync EMR, a web application for physicians to manage electronic medical records.
  ◦ Collaborated with multidisciplinary teams of developers and clinicians to design data validation scripts in Python.

- **Ontario Institute for Cancer Research [🌐]** *January 2020 – April 2020*
  Software Developer
  - Front-end developer for ICGC-ARGO, an international data platform for collecting and analyzing cancer data.
  - Implemented user-friendly dashboards with dynamic and interactive data visualizations as a front-end developer.
  - Created pre-processing scripts to parse and format JSON files of clinical and genomic cancer data in Python.
- **RedIron Technologies [🌐]** *May 2019 – August 2019*
  Automation Engineer
  - Designed automation infrastructure to streamline hours of manual testing to minutes using Java, Python, and SQL.
  - Programmed a robot to automate repetitive testing on pin-pad and point of sale systems using Python.

Teaching Experience

- **STA 130 – An Introduction to Statistical Reasoning and Data Science** *January 2024 – April 2024*
  Teaching Assistant University of Toronto
- **STA 313 – Data Visualization** *September 2024 – December 2024*
  Teaching Assistant University of Toronto
- **SE 101 – Introduction to Methods of Software Engineering** *September 2021 – December 2021*
  Lead Teaching Assistant University of Waterloo
- **MDM4U - Mathematics of Data Management** *February 2017 – June 2018*
  One-on-One Tutor Vincent Massey Secondary School
- **Code Reach Youth Program** *September 2017 – June 2018*
  Instructor Vincent Massey Secondary School

Awards and Honours

- **Graduate Studentship Award - $10,000** *2024 – 2025*
  Institute for Pandemics
- **NextGen Scholar Award** *2024*
  IEEE Engineering in Medicine and Biology Society
- **Interdisciplinary Symposium Poster Competition – 3rd Place** *2024*
  Institute for Pandemics
- **Term Honours, Distinction** *2019 – 2023*
  University of Waterloo
- **President's Scholarship of Distinction** *2019*
  University of Waterloo

Technical Skills

- **Programming Languages:** R (tidyverse, mice), Python (PyTorch, scikit-learn), C++, SAS, MATLAB, Unix Shell
- **Tools & Technologies:** Git, Jupyter Notebook, LaTeX, Markdown, SQL, Excel, Docker, Agile Methodologies
- **Biostatistics Concepts:** Causal Inference, Cluster-Correlated Data, Survival Analysis, Longitudinal Data
- **Statistical Learning Models:** Regression (GLM, Penalization), Random Forest, SVM, Boosting, Neural Net

Volunteer Experience

- **Health Data Working Group** *September 2023 – Present*
  Student Member [🌐]
  - Planning and moderating technical workshops for students to learn about health data analysis software and tools.
  - Coordinating communications and outreach with students, faculty and industry professionals to recruit presenters.
- **Biostatistics Union of Graduate Students** *September 2024 – Present*
  Vice President and Secretary [🌐]
  - Overseeing and advising committees for seminars and events, ensuring they stay on track with goals and deadlines.
  - Organizing monthly meetings to ensure smooth scheduling and clear communication between committees.
  - Documenting and distributing detailed meeting minutes to maintain accurate records for future reference.
- **Public Health Students' Association, University of Toronto** *September 2023 – August 2024*
  Biostatistics MSc Representative
  - Coordinated discussion forums with administration and collaborated with the dean to address student concerns.
- **Mathematics Society, University of Waterloo** *December 2021 – April 2022*
  Vice President of Operations [🌐]
  - Directed all the services operated by the society, organizing a team of over twenty volunteers throughout the term.
  - Revamped faculty protocol and policies in preparation for the transition from remote to in-person learning.
- **Mathematics Society, University of Waterloo** *January 2019 – August 2021*
  Board Games Director [🌐]
  - Planned and supervised weekly games night events for students with catering, snacks, and beverages.
  - Curated a diverse collection of over 300 board games by overseeing rental inventory and replacing components.
- **Mathematics Society, University of Waterloo** *September 2019*
  Orientation Speaker [🌐]
  - Delivered presentations to three groups of over 300 students about first-year experiences and academic success.