Lamin Juwara

Education

2018-2022 **PhD. Computational Statistics & Data Privacy, QLS**, McGill University, Canada.
Title Privacy-preserving regression methods for distributed biomedical data
Advisors Dr Paramita Saha-Chaudhuri and Prof Yi Yang

2016-2018 **MSc. Biostatistics**, McGill University, Canada.
Title Virtual Pooling as a Privacy-preserving Analysis Tool
Supervisors Dr Paramita Saha-Chaudhuri

2015-2016 **MSc. Mathematics**, AIMS, Stellenbosch University, South Africa.
Title Reverse-engineering T-cell proliferation dynamics
Supervisor Dr Wilfred Ndifon

2011-2015 **BSc. Mathematics (Hons)**, Kwame Nkrumah University of Science and Tech., Ghana.
Title Representation Theory of Finite Groups
Supervisor Dr Richard Kena Boadi

Work Experience

07/2022-Now **Postdoctoral Researcher**, Electronic Health Information Laboratory (EHIL), Ottawa.
- Application of machine learning methods to synthetic data generation.
- Evaluating privacy risks and utility of generative models.

01/2019-06/2022 **Biostatistician**, iMD Research Inc.
- Study design, data analysis, and report writing.

09/2017-01/2019 **Research Assistant**, Jewish General Hospital.
- Statistical Computing and data analysis

Summer 2017 **Visiting Research Scholar**, South African Centre for Epidemiological Modelling and Analysis.
- Developed web based applications for HIV incidence estimation (UNAIDS project)

Miscellaneous

01/2020-04/2020 **Math 324**, McGill University.
Graduate student assistant

2013-2015 **Mathematics Tutor**, KNUST, GHANA.

Scholarships

Financial Support

2018-2022 Mitacs Accelerate Fellowship, McGill University ($80,000)
2019-2022 Graduate Excellence Award - Quantitative Life Sciences ($13,500 × 3)
2016-2018 MasterCard Foundation Scholarship, McGill University (>$100,000)
2015-2016 African Institute for Mathematical Sciences (AIMS) Postgraduate Scholarship ($10,000)

Awards & Prizes

June, 2021 Best poster prize, PhD category. The Ninth Canadian Statistics Student Conference.

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Feb., 2018 Best poster prize, Overall. 14th Annual Student Research Day of the Department of Epidemiology, Biostatistics and Occupational Health. McGill University.

July, 2016 The Martin Rees Fellowship for Academic Excellence at AIMS Graduation, Stellenbosch University.

June, 2015 Best graduating student, Department of Mathematics, KNUST Ghana (Rank: 1/140).

Selected articles

1. Juwara L, Saha-Chaudhuri P (2022). A Hybrid Covariate Microaggregation Approach for Privacy-Preserving Logistic Regression. Journal of Survey Statistics and Methodology. [link]
2. Saha-Chaudhuri P, Juwara L (2021). Survival Analysis under the Cox Proportional Hazards model with Pooled Covariates. Statistics in Medicine. [link]
3. Galindez JL, Juwara L, ... Schipper HM (2021). Salivary Heme Oxygenase-1: A Potential Biomarker for Central Neurodegeneration. Journal of Central Nervous System Disease. [link]
4. Cressatti M, Galindez JL, Juwara L, ... Schipper HM (2020). Characterization and heme oxygenase-1 content of extracellular vesicles in human biofluids. Journal of Neurochemistry. [link]
5. Juwara L, ..., Saha-Chaudhuri P, Velly A (2020). Predicting neuropathic pain after breast cancer surgery using machine learning. International Journal of Medical Informatics. [link]
6. Cressatti M, Juwara L, Galindez JL, ... Schipper HM (2020). Salivary miR-153 and miR-223 levels as diagnostic biomarkers of idiopathic Parkinson disease. Movement disorders. [link]

Peer reviewed abstracts (selected)

1. Juwara L, Yang Y, and Saha-Chaudhuri P. Improving the efficiency of meta-analysis estimators for privacy-preserving Cox regression. QLS Research Day, 2022.
   [*Oral presentation*]
2. Juwara L, Yang Y, and Saha-Chaudhuri P. Privacy-preserving Cox proportional hazards regression with aggregate covariates. Annual Canadian Statistics Student Conference, 2021.
   [*Best poster prize, PhD category*]
3. Juwara L and Saha-Chaudhuri P. Predictive modeling under data privacy restrictions. Statistical Society of Canada annual Conference, 2020. [*Travel award*]
4. Juwara L and Saha-Chaudhuri P. Microaggregation as a Privacy-Preserving Analytical Tool for Analysis of Confidential Distributed Data. International Society of Pharmacoepidemiology mid-year meeting, 2018.
   [*Travel award*]
5. Juwara L, Schmidt A, and Saha-Chaudhuri P. Virtual Pooling as a Privacy-preserving Analysis Tool to Estimate Covariate Hazard Ratio (HR) of Cox Proportional Hazard Model. 14th Annual Student Research Day of the Department of Epidemiology, Biostatistics and Occupational Health, 2018.
   [*Best poster award*]

Software & other services

05/2022 Reviewed for Journal of Survey Statistics and Methodology (×1)

03/2021 Co-Reviewed for JMIR Medical Informatics (×1)

05/2019 Incidence estimation tools (UNAIDS tools). [link]

08/2018 Prevalence and Incidence Calculator: Calculates HIV incidence from prevalence survey data that include biomarkers of recent infection. UNAIDS [link]

2018-Now Maintain several R-Packages (e.g. [link]) and Web-based tools [link]

Computer skills

Advanced R, Python, MatLab, LaTeX, Linux, and Office suites

Intermediate HTML, Visual Basics, SPSS, SAS

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