ALEEZA MALIK, MSc

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EDUCATION

Masters of Science in **Health Sciences,** Brock University *St. Catherines, ON* | **2024**

Specialization in Epidemiology and Biostatistics

Thesis topic: Improving Lung Cancer Risk Prediction: Integration of Novel Predictors and Modelling Using Machine Learning Random Forest versus the Validated PLCOm2012 Logistic Regression Model

- Conducted a retrospective cohort study using follow-up data from the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial (PLCO) to develop a lung cancer (LC) risk prediction model.
- The model was developed utilizing an advanced machine learning random forest technique to assess its performance alongside traditional logistic regression.
- Integrated additional novel LC predictors to improve the current established PLCO cancer screening trial 2012 model (PLCOm2012).
- This research demonstrated superior predictive performance of logistic regression over the advanced random forest technique in LC risk assessment.
- Incorporation of novel predictors (dietary variables and history of chest x-ray) further enhanced the predictive performance of the PLCOm2012 model, facilitating more accurate identification of high-risk individuals for LC screening.

Relevant Coursework:

- Current Issues in Applied Health Sciences Research
- Epidemiology
- Quantitative Research Methodology
- Health Ethics

Summer Program in Clinical Epidemiology and Biostatistics (SPICE & B), UFT + UHN **Jun 2022 - Sept 2022**

- Composed of a series of educational seminars by experts in clinical research, methodology, and design with the core objective of increasing the knowledge base in epidemiology and biostatistics with emphasis on understanding the proper application of the core principles and their interpretation in clinical practice.

Bachelor of Science in **Medical Sciences,** Brock University *St. Catherines, ON* | **2019**

AREAS OF EXPERTISE

❯ SAS	❯ RStudio	❯ STATA	❯ MS Office 365

PROFESSIONAL EXPERIENCE

Biostatistics Lab Demonstrator, Brock University *St. Catherines, ON* | **Sept 2019 - Present**

- Designed and facilitated laboratory sessions and provided evaluation of work (lecture assignments, lab assignments, midterm, and final exams) for 2nd and 3rd year undergraduate students.
- Guided students to an array of core biostatistical/analytical techniques prevalent in Health Science research, equipping them with critical skills for their academic and professional advancement in Health related fields.

Research Assistant, Brock Healthy Youth Project (BHYP) *St. Catherines, ON* | **Sept 2018 - Jun 2019**

- The purpose of the prospective research project aimed to evaluate how lifestyle choices impact youth health trajectories with a focus on improving long-term well-being into adulthood.
- Coordinated research and data collection protocols, ensuring accuracy and reliability throughout the process. Conducted rigorous data cleaning to refine the raw data for the preparation of statistical analysis using RStudio and Stata software.

CERTIFICATIONS

TCPS 2: CORE + CIHR Certifications:

- Sex & Gender in Biomedical Research
- Sex & Gender in Primary Data Collection with Human Participants
- Sex & Gender in Secondary Data Collected from Human Participants

ACHIEVEMENTS

- Deans Honour List and Brock Scholars Award
- Graduate Speaker at Women in STEM Event
- Graduate Presenter at Mapping the New Knowledge (MNK) Conference
- Brock University 3MT graduate research participant