Md. Mazharul Islam

Curriculum Vitae

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Education

2014   **Master of Science in Applied Statistics**, *Institute of Statistical Research and Training (ISRT)*, University of Dhaka, Bangladesh, *CGPA – 3.74 (Scale of 4.00)*.

MS Thesis *"Modified Profile Likelihood Estimation and Inference Techniques for Survival Distributions and Models"* under the supervision of Dr. Md Hasinur Rahaman Khan, Associate Professor of Applied Statistics, ISRT , University of Dhaka.

2010-2013   **Bachelor of Science in Applied Statistics**, *Institute of Statistical Research and Training (ISRT)*, University of Dhaka, Bangladesh, *CGPA – 3.64 (Scale of 4.00)*.

BS Project *"An Evaluation of Conventional Sample Selection Procedure and a Suggestion as well as Justification of Response Based Selection Procedure"*, under the supervision of Dr. Sharif Mahmood, Assistant Professor of Applied Statistics, ISRT, University of Dhaka.

Experience

Mar,2019-Present   **Research Associate**, *Research Unit*, Bangladesh Institute of Governance and Management, Dhaka, Bangladesh.

My area of research is development and application of machine learning techniques to improve health outcomes and explainable deep neural network. I am also working with environment and public policy related research in collaboration with others.

Aug,2018-Feb,2019   **Data Scientist**, Insightin Technology, Dhaka, Bangladesh.

My responsibilities are to extract data from different reports and web sources, storing in database using SQL, applying machine learning and time series methods to make predictions, developing codes in R and Python, interactive visualization using Microsoft Power BI. I have also worked for developing a Plan Recommendation System there.

Jan,2018-Jul,2018   **Statistician & Project Manager**, Eusuf and Associates, Dhaka, Bangladesh.

I worked under the project entitled "Household Survey (Panel Survey: 2018): an Impact Assessment of Urban Primary Health Care Service Delivery Project (UPHCSDP)" funded by Asian Development Bank. My major responsibilities were to extract data from smartphone-based data collection platform, cleaning of the data, analysis of the data using STATA and R.

Jun,2016-Dec,2016   **Statistician**, National Institute of Mental Health, Dhaka, Bangladesh.

I worked under the project entitled "Community Survey of Symptoms Presentation of Common Psychiatric Disorders". My responsibilities were cleaning of the data, analysis of the data and preparing of draft report of the survey.

May,2015-Jun,2016   **Senior Research Assistant**, *Nutrition Program Evaluation Unit, NCSD (old CNFS)*, ICDDR,B, Dhaka, Bangladesh.

I have worked under the project entitled "Assessing Coverage, utilization, and Barrier to Coverage in the BRAC Home Fortification Program in Bangladesh" and "Piloting Job Aids and User-Friendly Product Presentations in Amoxicillin Dispersible Tablets for Treatment of Childhood Pneumonia". My major responsibilities were monitoring quality of the data, data cleaning, developing analysis code in R and analysis of the data.

Courses Taken

1. Data Analytics in R and Python. Co-director and trainer, Bangladesh Institute of Governance and Management

2. Hands-On Quantitative Analysis for Executives. Assistant director and trainer, Bangladesh Institute of Governance and Management

Research Grants

1 Islam MM, <u>Islam MM</u>, Zahan F and Bulbul N (2019). *Glass Ceiling Faced by Women at Workplace: Bangladesh Public Sector Perspective.* Bangladesh Institute of Governance and Management.

2 <u>Islam MM</u>, Islam MM, Rahman MT and Tanzil MAH (2020, in progress). *Web Application for Early Detection of Hypertension Using Machine Learning Algorithm: A Case of Bangladesh.* Innovation Fund, ICT Division, Government of Bangladesh.

Research Publications

Journal Article

Published/Accepted

1 <u>Islam MM</u>, Sharmin M and Ahmed F(2020). *Predicting air quality of Dhaka and Sylhet divisions in Bangladesh: a time series modeling approach.* **Air Quality, Atmosphere & Health**,1-9. (Springer Nature). https://doi.org/10.1007/s11869-020-00823-9

2 Khan JR, Awan N, <u>Islam MM</u>, Muurlink O F(2020). *Healthcare capacity, health expenditure, and civil society as predictors of COVID-19 case fatalities: a global analysis.* **Frontiers in Public Health**, (Frontiers). http://dx.doi.org/10.3389/fpubh.2020.00347

3 Khan JR, <u>Islam MM</u>, Biswas RK and Sultana A (2020). *An assessment of anemia status of child-mother pairs in Bangladesh.* **Children and Youth Services Review**, 112, 104851. DOI:10.1016/j.childyouth.2020.104851 (Elsevier).

4 <u>Islam MM</u>, Khan MHR and Hawlader T (2019). *Modified profile likelihood estimation for the Weibull regression models in survival analysis.* **Communications in Statistics - Theory and Methods**, 48(9), 2329-2343 (Taylor & Francis)

5 <u>Islam MM</u>, Khan JR and Raheem E (2017). *Bradley-Terry model for assessing the performance of ten ODI cricket teams adjusting for home ground effect.* **Journal of Data Science**, 16, 657-668.

6 Khan JR, <u>Islam MM</u>, Awan N and Muurlink O (2017). *Analysis of low birth weight and its co-variants in Bangladesh using a mixed effects model.* **BMC pediatrics**,18(1), 100 (Springer Nature).

7 <u>Islam MM</u>, Khan JR, Kabir A, Khan DMJR and Islam MM (2020, Potentially accepted). *Early childhood development and its correlates among pre-school aged children in Bangladesh.*

Under Review/Submitted

1 <u>Islam MM</u> and Shamsuddin R (2020). *Explaining diagnostic CNN concepts to promote personalized health management for predicting hypertension*

2 <u>Islam MM</u>, Sultana T and Dey S (2019). *Predicting hypertension from survey questionnaire using machine learning techniques.*

3 Khan MHR, Hawlader T and <u>Islam MM</u> (2020). *Battling the COVID-19 pandemic: is Bangladesh prepared?*(MedRxiv) https://doi.org/10.1101/2020.04.29.20084236

4 Islam MM, <u>Islam MM</u>, Zahan F and Bulbul N (2020). *Assessing workplace culture-induced incivility against women: evidence from Bangladesh civil service.*

5 Khan JR, Sultana A, <u>Islam MM</u> and Biswas RK (2020). *Diabetes and urban residential area greenness: A nationwide assessment on Bangladesh.*

Contributed Software Application & Development

R Package

1. Islam MM, Khan JR and Khan MHR (2017). ***mapReasy**: Producing Administrative Boundary Map with Additional Features Embedded.***Comprehensive R Archive Network (CRAN)** (Link)

2. Islam MM and Khan MHR (2017). ***MPLikelihoodWB***: *Modified Profile Likelihood Estimation for Weibull Shape and Regression Parameters.* **Comprehensive R Archive Network (CRAN)** (Link)

Web Application

1. Deployed Neural Network model to predict hypertension on Heroku platform (2019) (using Python (flask) and HTML). Available at https://predict-hypertension.herokuapp.com

Computer & Programming Skills

Operating System	Windows, Linux
Programming Language	R, Python, Stata
Database management	Microsoft SQL
BI tool	Microsoft Power BI, Azure Machine Learning Studio
Web Design	HTML, Bootstrap
Cloud Platform	Heroku
Data Collection	Open Data Kit (ODK)

Conference Proceedings

1. Islam MM and Khan JR (2015). *Assessing the performance of Top-ten cricket teams in ODI cricket: using a paired comparison model,* The Second International Conference on Statistics, December 27-29, 2015, University of Dhaka, Bangladesh.(Presented by Islam MM)

2. Islam MM and Khan MHR (2019). *On the Improvement of Likelihood Estimation for the Shape Parameter of Generalized Extreme Value Lifetime Distribution,* The Second International Conference on Applied Statistics, December 27-29, 2019, University of Dhaka, Bangladesh.(Presented by Islam MM)

Online Training & Courses

1. Machine learning A-Z: Hands-On Python & R In Data Science.*Udemy*
2. Python and Flask Bootcamp: Create Websites using Flask. *Udemy*
3. MPN Competency: Business Intelligence for Data Analytics. *Microsoft*
4. MPN Competency: Data Platform & Analytics Foundational for Data Analytics Competency. *Microsoft*

Experience in Big Data

1. Analyzed McDonald's data having more than half billion records. *Freelance based.*

Languages

Bangla	Fluent (Mother tongue)
English	IELTS overall 7.0

Volunteer Activity

Dec,27-29, 2014	International Conference on Applied Statistics, University of Dhaka, Bangladesh