

Mashfiqul Huq Chowdhury

Associate Professor

Department of Statistics

Mawlana Bhashani Science and Technology University

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Research Interests

- **Bayesian Inference and Artificial Intelligence**
Bayesian Inference, Generalized Linear Model, Machine Learning, Deep Learning, Generative Modelling.
- **Biostatistics**
Longitudinal Data Analysis, Survival Analysis, Joint Models.

Academic Credentials

PhD Candidate in Statistics

Victoria University of Wellington

Expected Graduation Year: 2025

Thesis: *Mixtures of Variational Autoencoders for Cluster Analysis in Latent Space*

Supervisor: Professor Stephen Marsland, Dr. Yuichi Hirose, and Dr. Yuan Yao (Victoria University of Wellington, New Zealand).

Master of Science, Statistics

University of Regina, Canada

Graduation Year: January, 2019

Thesis: *Quantile Regression Approach for Analyzing Gene Expression Data*

Supervisor: Dr. Dianliang Deng (University of Regina, Canada).

Master of Science, Statistics, Biostatistics and Informatics

University of Dhaka, Bangladesh

Graduation Year: 2008

Result: First Class

Thesis: *Generalized Linear Modeling Approach for Identifying Factors Influencing Proximate Determinants and Childbearing in Bangladesh*

Supervisor: Md. Golam Rabbani (University of Dhaka, Bangladesh).

Bachelor of Science, Statistics, Biostatistics and Informatics

University of Dhaka, Bangladesh

Major: Statistics, Biostatistics and Informatics

Minor: Mathematics and Economics

Passing Year: 2007

Result: First Class

Publications

1. Islam, M. J., **Chowdhury M. H.**, Rahman, M. M., Rahman, Z. Risk Factors of Children's Low Birth Weight and Infant Mortality in Bangladesh: Evidence from Binary Logistic Regression and Cox PH Models. *Health Science Reports (2024)*: 7(8).
2. Rahman, M. M., Moloy M. D. J., **Chowdhury M. H.**, Ahmed A., Kabir, T. Evaluating the Performance of Machine Learning Algorithm for Classification of Safer Sexual Negotiation among Married Women in Bangladesh. *Annals of Data Science (2024)*.
3. Rahman M., **Chowdhury M. H.**, Salan M. S. A., and Ahmed A. Status of Antenatal Care Utilization and Child Birth at Health-Facilitated Places in Bangladesh. *Jahangirnagar University Journal of Statistical Studies (2023)*: 37: 57-67.
4. Moloy M. D. J., Ahmed A., **Chowdhury M. H.**, and Islam, M. S. Identifying the Determinants of Awareness About HIV/AIDS among Ever Married Women in Bangladesh. *MBSTU Journal of Science and Technology (2023)*: 9(1 & 2): 7-13.
5. Aktar, M. F., **Chowdhury M. H.**, and Rahman, M. S. A quantile regression approach to identify risk factors for high blood glucose levels among Bangladeshi individuals. *Health Science Reports (2023)*: 6(12).
6. **Chowdhury M. H.**, Aktar, M. F., Islam, M. A. and Khan, N. M. Factors Associated with Stunting Status among Under-5 Years Children in Bangladesh: Quantile Regression Modelling Approach. *Children and Youth Services Review (2023)*: 155, 107199.
7. Deng D. and **Chowdhury M. H.** Quantile Regression Approach for Analyzing Similarity of Gene Expressions under Multiple Biological Conditions. *Stats (2022)*: 5 (3), 583-605.
8. Paul G. K., Rahman, M. M., Naznin S., **Chowdhury M. H.** and Uddin M. J. Depression and Anxiety among University Students: A Comparison between COVID-19 Pandemic Panic Period and Post-panic Period

- in Bangladesh. *Open Access Macedonian Journal of Medical Sciences* (2022): 10(E): 52-59.
9. **Chowdhury M. H.**, Moloy M. D. J., Naznin S., and Hannan M. A. Factors Influencing Timing of First Birth of Ever-married of Bangladesh. *Jahangirnagar University Journal of Statistical Studies* (June, 2020): 35: 49-64.
 10. Ahmed A., Sumi, S. N., Habiba U., Datta M., **Chowdhury M. H.** and Khan N. M. Prevalence of Unintended Pregnancy and its Association with Unmet Need for Contraception among Married Women in Bangladesh. *Annals of the Romanian Society for Cell Biology* (2021): 25(5): 5534 - 5549.
 11. Moloy M. D. J., Khan A., Salan M. S. A. and **Chowdhury M. H.** Factors Associated with Women's Decision-Making in Bangladesh. *Bulletin of Mathematics and Statistics Research* (2019): 7(4): 100-116.
 12. **Chowdhury M. H.**, Hassan M. Z. and Sabiha M. Factors Influencing Women's Waiting Time to First Birth in Bangladesh: An Application of Cox Proportional Hazard Model. *Journal of Science and Technology* (2018): 100-116.
 13. **Chowdhury M. H.**, Mim F. N. and Satu S. A. Prevalence and Risk Factors of Child Malnutrition in Bangladesh. *Research and Reviews: Journal of Statistics and Mathematical Sciences* (2018), 4(2): 59-66.
 14. Moloy M. D. J., **Chowdhury M. H.**, Binyamin, M. and Mondal S. K. Using SARIMA Approach to Modeling and Forecasting Monthly Rainfall in Bangladesh. *International Journal of Sciences and Applied Research* (2018), 5(5): 6-14.
 15. **Chowdhury M. H.**, Moloy M. D. J., Binyamin, M. and Rahman M. A. Determinants of Age at First Marriage among Women in Bangladesh: A Binary Logistic Regression Approach. *Journal of Science and Technology* (December, 2018), 8(1 & 2): 31-40.
 16. **Chowdhury M. H.**, Mondal S. K. and Islam J. Modeling and Forecasting Humidity in Bangladesh: Box-Jenkins Approach. *International Journal of Research -Granthaalayah* (2018), 6(4): 50-61.
 17. **Chowdhury M. H.**, Saha J. and Paul G. K. An Application of Box-Jenkins Methodology for Forecasting Rice Production in Bangladesh. *International Journal of Sciences and Applied Research* (2018), 5(1): 8-17.
 18. **Chowdhury M. H.**, and Mondal S. K. Seasonal ARIMA approach for Modeling and Forecasting Temperatures in Bangladesh. *Journal of Science and Technology* (2017), 7(1-2): 29-43.

19. **Chowdhury M. H.**, and Hosna K. Modeling and Forecasting Per-capita GDP of Bangladesh by ARIMA Model. *Journal of Science and Technology (2016)*, 6(1-2): 137-151.
20. Paul G. K., Naznin S., **Chowdhury M.H.**, and Moloy M. D. J. Determinants of Age at First Marriage and its Influence on Completed Fertility. *Research and Reviews: Journal of Statistics (2014)*, 3(3): 2278-2273.
21. **Chowdhury M. H.**, and Moloy D. J. A Statistical Analysis to Identify Potential Factors of Fertility in Bangladesh. *Journal of Science and Technology (2014)*, 4(1): 65-78.
22. Moloy D. J., **Chowdhury M. H.**, Paul. G. K., and Rabbani M. G. A Study on the Demographic, Socio-economic and Cultural Determinants of Childbearing in Bangladesh. *South Asian Journal of Population and Health (2013)*, 6(1-2): 65-79.
23. **Chowdhury M. H.** and Moloy D. J. Factors Influencing Women's Intention to Desire for Children in Bangladesh: A Multinomial Logistic Regression Approach. *South Asian Journal of Population and Health (2013)*, 6(1-2): 41-55.
24. **Chowdhury M. H.**, and Rabbani M. G. Fitting of Polynomial Models to Age Pattern of Fertility of Bangladesh. *Journal of Science and Technology (2013)*, 3(2): 439-449.

Conference Presentations

- Deep Mixture Models for Understanding Latent Space Representations and Clustering Tasks. *New Zealand Statistical Association Conference*, University of Canterbury, Christchurch, New Zealand. December 4-6, 2023.
- Variational Autoencoder Model for Representation Learning and Clustering. *New Zealand Mathematics and Statistics Postgraduate Conference*, Victoria University of Wellington, New Zealand. 29 November-December 1, 2023.
- Quantile Regression Analysis for Gene Expression Data. *Statistical Society of Canada: Recent Progress for Quantile Regression Analysis*, University of Calgary, Canada. May 2019.
- Factors Influencing Stunting Status of Under Five Children in Bangladesh: A Generalized Linear Modeling Approach. *First International Conference on Food Safety, Nutrition and Public Health: Present Scenario and Future Challenges*, Mawlana Bhashani Science and Technology University, Bangladesh. November 2016.

Academic Awards

- Graduate Scholarship (Winter 2018), University of Regina
- Saskatchewan Innovation and Excellence Scholarship, 2018
- Graduate Scholarship (Spring and Summer 2018), University of Regina
- FGSR Teaching Assistantship Award (Fall 2018), University of Regina
- Saskatchewan Innovation and Excellence Scholarship, 2017
- FGSR Teaching Assistantship Award (Fall 2017), University of Regina
- FGSR Teaching Assistantship Award (Winter 2017), University of Regina
- Graduate Scholarship (2010), University of Dhaka, Bangladesh.
- NSICT Fellowship (2008), Government of Peoples Republic of Bangladesh
- Undergraduate Scholarship (2009), University Grants Commission, Bangladesh
- Junior Scholarship (8th Grade) in Talent Pool Quota (1998), Bangladesh
- Primary Scholarship (5th Grade) in Talent Pool Quota (1996), Bangladesh

Academic Experiences

- Associate Professor, Department of Statistics, Mawlana Bhashani Science and Technology University, Tangail, Bangladesh (***June 29, 2019-Present***)
- Assistant Professor, Department of Statistics, Mawlana Bhashani Science and Technology University, Tangail, Bangladesh (***March 25, 2014-June 28, 2019***)
- Lecturer, Department of Statistics, Mawlana Bhashani Science and Technology University, Tangail, Bangladesh (***March 25, 2012- March 24, 2014***)
- Sessional Assistant, Victoria University of Wellington (***Trimester-1, 2023***)
- Tutor, Victoria University of Wellington (***Trimester-3, 2022***)
- Teaching Assistant, University of Regina (***Fall 2018***)
- Teaching Assistant, University of Regina (***Spring and Summer 2018***)
- Teaching Assistant, University of Regina (***Winter 2018***)
- Teaching Assistant, University of Regina (***Fall 2017***)
- Teaching Assistant, University of Regina (***Spring and Summer 2017***)
- Teaching Assistant, University of Regina (***Winter 2017***)

Research Experience

Research Assistant, Bangladesh Center for Development, Journalism and Communication (BCDJC), *February, 2008-April, 2008*.

Computer Expertise's

- **Statistical Software:** R Programming Language, SPSS and SAS
- **Application Software:** MS Word, MS Excel, MS Power Point and \LaTeX

Teaching Courses

- Generalized Linear Model
- Advanced Survival Analysis
- Mathematical Statistics
- Probability
- Probability Distributions
- Sampling Distributions
- Advanced Survival Analysis
- Test of Hypothesis
- Regression Analysis
- Time Series Analysis
- Decision Theory and Bayesian Method
- Data Analysis Using R, SPSS and SAS
- Econometrics
- Order Statistics and Non-Parametric Tests
- Bi-variate Data Analysis
- Principles of Economics
- Biostatistics-I
- Biostatistics-II
- Sampling Techniques-I
- Epidemiology
- Numerical Analysis
- Statistics (CSE, ICT)
- Biostatistics (Biochemistry, Genetic Engineering, Pharmacy)
- Mathematical Statistics

Masters Thesis Supervision

- Shamema Akter Satu (Masters Session: 2014-2015, Completed: 2017)
- Juthi. Saha (Masters Session: 2014-2015, Completed: 2017)
- Somaresh Kumar Mondal (Masters Session: 2014-2015, Completed: 2017)
- Mahmuda Akter (Masters Session: 2016-2017, Completed: 2020)
- Md. Johurul Islam (Masters Session: 2016-2017, Completed: 2020)
- Mst. Farjana Aktar (Masters Session: 2016-2017, Completed: 2020)

- Mst. Monira Rahaman (Masters Session: 2016-2017, Completed: 2020)
- Md. Benjir Ahammed (Masters Session: 2017-2018, Completed: 2022)
- Afruza Pervin Mitu (Masters Session: 2017-2018, Completed: 2022)
- Nezamul Islam (Masters Session: 2017-2018, Completed: 2022)
- Rupali Sultana (Masters Session: 2017-2018, Completed: 2022))
- Tuhin Rana (Masters Session: 2018-2019, Completed: 2022)
- Sabikun Nahar Sumi (Masters Session: 2018-2019, Completed: 2022)

References

- ***Dr. Yuichi Hirose***
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- ***Dr. Stephen Marsland***
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- ***Dr. Dianliang Deng***
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