

CURRICULUM VITAE TEMPLATE



Position/Designation: *Assistant Professor*
 Department: *Mathematical and Physical Sciences - Statistics Section*
 College: *Arts and Sciences*
 University of Nizwa, Sultanate of Oman

Personal Information

Name: Md Sakhawat Hossain
 Marital Status: Married
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Academic Qualifications

PhD in Mathematics (Concentration in Statistics), *Texas Tech University, Lubbock, TX , USA*

M.S. in Statistics, *Texas Tech University, Lubbock, TX , USA*

M.S. Mathematics, *Clemson University, Clemson, SC , USA*

M.S. in Applied Mathematics, *University of Dhaka, Dhaka, Bangladesh*

Bachelor of Science, Mathematics, *University of Dhaka, Dhaka, Bangladesh*

Teaching Activities, Current/Previous Experience**Courses Taught:**

Statistical Methods, Business Statistics, Statistics for Engineers and Scientists, Statistical Methods LAB (Graduate), Statistical Methods LAB (Undergraduate), Statistics and Probability, Quantitative Analysis in Health Research II, College Algebra, Introductory Mathematical Analysis I, Linear Algebra, Calculus.

Assistant Professor in Statistics, *Department of Mathematical & Physical Sciences, University of Nizwa, Oman, August 2026 -Current*

Research Assistant Professor, *Department of Public Health Sciences, Center for Public Health Modeling and Response, DMA-PRIME, Clemson University, Clemson, SC, USA, August 2023 – July 2026*

Research Assistant, *Department of Mathematics and Statistics, Texas Tech University, Lubbock, TX, USA, June 2022 – August 2023*

Graduate Part-Time Instructor (GPTI), *Department of Mathematics and Statistics, Texas Tech University, Lubbock, TX, USA, September 2017 – May 2022*

Graduate Teaching Assistant (GTA), *Department of Mathematical Sciences, Clemson University, Clemson, SC, USA, August 2014 – May 2017*

Lecturer, Mathematics, *Department of ECE, Presidency University, Dhaka, Bangladesh, February 2013 – October 2013*

Research Activities

(includes but not limited to research interests, conference attendance, conference presentations and publications: refereed journal, articles etc.)

Research Interests:

Infectious Disease Modeling and Forecasting
Machine Learning and Artificial Intelligence
Bayesian Statistics and Statistical Inference
Predictive Modeling and Decision Analytics
Parameter Estimation

Conference Presentations:

- Facility-Level Forecasting of Respiratory Disease Burden Using EHR Data in South Carolina. Technical Poster. Insight Net Annual Meeting 2026, UNC Chapel Hill, NC. April 28, 2026.
- Small-Area Rt Estimates and ML Forecasting of EHR Outcomes for Local Infectious Disease Preparedness. Invited Talk. Department of Mathematics and Statistics, Texas Tech University. December 3, 2025.
- Forecasting COVID-19 and Influenza Using ML with Health System Data. Invited Talk. Clemson-MUSC AI Hub Annual Summit. October 11, 2025.
- ML Approaches for Forecasting Infectious Disease Transmission and Outcomes. Invited Talk. Department of Public Health, North South University, Dhaka, Bangladesh. August 19, 2025.
- ML and Probabilistic Approaches for Forecasting COVID-19 Transmission. Contributed Talk. Joint Statistical Meetings, Nashville, TN. August 4, 2025.
- Estimation of Rt to Improve Local Area Infectious Disease Forecasting. Contributed Talk. Joint Statistical Meetings, Portland, OR. August 6, 2024.
- Two-Input Two-Output Model for Multifunctional Materials. Invited Talk. University of Rio Grande Valley, TX. March 28, 2023.
- Bayesian Parameter Estimation in Ordinal Quantile Regression. Invited Talk. Simmons University, Boston, MA. March 3, 2023.
- Smart Materials Parameter Identification. Poster. SIAM TX-LA Annual Meeting, University of Houston. November 4–6, 2022.
- Parameter Identification for Multifunctional Materials. Invited Talk. CAM Seminar, Wichita State University. October 14, 2022.
- Parameter Identification for Multifunctional Materials. Contributed Talk. SIAM Conference on Mathematics of Data Science (MDS22), San Diego, CA. September 2022.
- Modeling and Parameter Estimation for Multifunctional Materials. Conference of Texas Statisticians, TTU. October 9, 2021.
- Can ML Technique Outperform Prediction to Find Obesity Level? Oral Competition. ORI Annual Meeting, Texas Tech University. May 12, 2021.

Publications:

Dao, M., **Hossain, M.S.**, & Ma, Z. Bayesian Variable Selection in High-Dimensional Ordinal Quantile Regression Models. *Stat Papers* **67**, 70 (2026). <https://doi.org/10.1007/s00362-026-01841-y>.

Hossain, M.S., Goyal, R., Martin, N.K., DeGruttola, V., Ahammed, T., McMahan, C., & Rennert, L. (2026). Machine Learning and Probabilistic Approaches for Forecasting Infectious Disease Transmission and Cases. *International Journal of Infectious Diseases*, 108674. ISSN 1201-9712. <https://doi.org/10.1016/j.ijid.2026.108674>.

Ahammed, T., **Hossain, M.S.**, McMahan, C., & Rennert, L. (2025). Estimating Statewide COVID-19 Hospitalizations Using Local Health System Data: A Machine Learning Approach. *Epidemics*, Special Issue: Artificial Intelligence for Infectious Disease Dynamics, 51, 100823. <https://doi.org/10.1016/j.epidem.2025.100823>.

Hossain, M.S., Goyal, R., Martin, N.K., DeGruttola, V., Chowdhury, M.M., McMahan, C., & Rennert, L. (2025). A Flexible Framework for Local-Level Estimation of the Effective Reproductive Number in Geographic Regions with Sparse Data. *BMC Medical Research Methodology*, 25(1): 73. <https://doi.org/10.1186/s12874-025-02525-1>.

Chowdhury, M.M., Ayon, R.S., & **Hossain, M.S.** (2024). An Investigation of Machine Learning Algorithms and Data Augmentation Techniques for Diabetes Diagnosis Using Class Imbalanced BRFSS Dataset. *Healthcare Analytics*, 5, 100297. <https://doi.org/10.1016/j.health.2023.100297>. [Open Access]

Hossain, M.S., Iyer, R., Clemente, C.S., Davino, D., & Visone, C. (2023). Characterization of Terfenol-D and Comparison with Predictions of a Thermodynamically Consistent Two-Input, Two-Output Model of Hysteresis. *IEEE Transactions on Magnetics*. <https://doi.org/10.1109/TMAG.2023.3269001>.

Hossain, M.S., Iyer, R., Clemente, C.S., Davino, D., & Visone, C. (2023). Parameter Identification for a Model for Multi-Functional Materials with Hysteresis and Thermodynamic Compatibility. *Journal of Intelligent Material Systems and Structures*, 34(19), 2280–2292. <https://doi.org/10.1177/1045389X231167068>. [Cited 6+ times]

Hasan, E., Mostafa, F., **Hossain, M.S.**, & Loftin, J. (2023). Machine-Learning Classification Models to Predict Liver Cancer with Explainable AI to Discover Associated Genes. *AppliedMath*, 3, 417–445. <https://doi.org/10.3390/appliedmath3020022>.

Chowdhury, M.M., Islam, M.R., **Hossain, M.S.**, Tabassum, N., & Peace, A. (2022). Incorporating the Mutational Landscape of SARS-CoV-2 Variants and Case-Dependent Vaccination Rates into Epidemic Models. *Infectious Disease Modelling*, 7(2), 75–82. <https://doi.org/10.1016/j.idm.2022.02.003>.

Faculty Administrative Experience

Postdoctoral Researcher Search Committee Member (2 searches), Department of Public Health Sciences, Clemson University

Doctoral Dissertation Committee Member for Two Ph.D. Students, Clemson University, SC, USA

Community Services

- General Secretary, Association of Bangladeshi Students and Scholars (ABSS), Texas Tech University (2018–2019)
- Sports Secretary, Bangladesh Graduate Student Association, Clemson University (2016–2017)
- Organizer and Judge, MATHEMA Mathematics Contest, University of Dhaka (2007); Judge (2008)
- President (2008) and General Secretary (2007), Student Association of Bamna, Dhaka, Bangladesh

Consultancy
Membership in Professional Bodies
• American Statistical Association (ASA) — 2023 – 2026 • Institute of Mathematical Statistics (IMS) — 2023 – 2026 • Society for Industrial and Applied Mathematics (SIAM) — 2017–2023 • American Mathematical Society (AMS) — 2017–2023
Awards and Recognitions
• Travel Award, Insight Net Coordination Center (Epydemix Workshop, Chapel Hill, NC) — 2026 • Travel Award, Insight Net / CDC Center for Forecasting and Outbreak Analytics (Rt Collabathon) — 2024 • Dr. Conover's Horn Funds Travel Award, Texas Tech University — 2022 • Graduate School Travel Award, Texas Tech University — 2022 • Departmental Travel Award, Texas Tech University — 2022 • Doctoral Dissertation Completion Fellowship, Texas Tech University — 2022 • James D. and Mary Hazlewood Fellowship, Texas Tech University — 2020 • Bingham Memorial Graduate MA Scholarship, Texas Tech University — 2020 • WP Dayawansa Mathematics Scholarship, Texas Tech University — 2020 • Shelby Hildebrand Graduate Fellowship, Texas Tech University — 2019 • Travel Grant, Bangladesh-Sweden Trust Fund — 2018