

MD MUHTASIM BILLAH

Data Science | Machine Learning | Statistics | Stochastic Modeling

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[kaggle.com/mdmuhtasimbillah](https://www.kaggle.com/mdmuhtasimbillah)

github.com/mmbillah

medium.com/@mmbillah

EDUCATION

Ph.D. Mechanical Engineering GPA: 3.93/4.00
Washington State University Aug 2022

Multiscale Modeling, Stochastic (Monte Carlo) Simulations

M.S. Statistics GPA: 4.00/4.00
Washington State University Jan 2022

Relational Database, Machine Learning, Statistical Computing

B.S. Mechanical Engineering
Bangladesh University of Engg. and Tech. Feb 2017

EXPERIENCE

Research Assistant
Washington State University

Jan 2020 – Ongoing Pullman, WA

- Developed and further improved a preexisting probabilistic model based on Monte Carlo method written in C++ and Fortran programming language.
- Utilized the stochastic model for studying key parameters for drug delivery through blood brain barrier (BBB) as an aid for neurodegenerative diseases such as Alzheimer's and Parkinson's.
- Studied design parameters and relevant characteristic properties for manufacturing functional nanoparticle for drug delivery.
- Used finite volume method (FVM) for solving inverse heat transfer problem using Bayesian Inference technique.

Teaching Assistant
Washington State University

Aug 2018 – Dec 2019 Pullman, WA

PUBLICATIONS

Journal Articles

- Al Khan, MM Billah, C Ying, J Liu, P Dutta, *Bayesian Method for Parameter Estimation in Transient Heat Transfer Problem*, International Journal of Heat and Mass Transfer (2020) 166, 120746. [Link](#)
- MM Billah, H. Deng, P. Dutta, J. Liu, *Receptor Mediated Endocytosis with and without Clathrin Dependency: Key Parameters Study*, Nanoscale (Under review).

Conference Proceedings

- MM Billah, H. Deng, P. Dutta, J. Liu, *Investigation of the Key Parameters Impacting the Receptor Dependent Clathrin-mediated Endocytosis through Stochastic Modeling and Simulations* American Physical Society, (2019) L32-003. [Link](#)

TECHNICAL SKILLS

Programming: Python R MATLAB
C++ SAS LaTeX Fortran

Data Science Toolbox: SQL PySpark
TensorFlow/Keras Scikit-Learn Pandas
NumPy Matplotlib Plotly Seaborn
git tableau dplyr tidyr tidyverse
caret quanteda ggplot2

CERTIFICATES

- Deep Learning Specialization (Coursera) [Link](#)
- Machine Learning (Coursera) [Link](#)
- Python Programming (DataCamp) [Link](#)
- Data Scientist with Python (Ongoing)

DATA SCIENCE PROJECTS

- Multilabel classification of drugs based on mechanism of action (MoA) detection in Python. [Link](#)
- Python based machine learning approach for cancer classification from genomic data. [Link](#)
- Multiple linear regression in R to predict the influence of socio-economic factors on female employment rate. [Link](#)
- Simple linear regression in R to predict the impact of fertility rate on employment. [Link](#)

AWARDS

- Dean's List Scholarship, Faculty of Mechanical Engineering, BUET 2017.
- University Merit Scholarship, BUET 2016.
- Dean's List Scholarship, Faculty of Mechanical Engineering, BUET 2016.

TEACHING EXPERIENCE

Instructor

Daffodil International University

Jan 2018 – Jul 2018 Dhaka, Bangladesh

Instructor

Sonargaon University

May 2017 – Dec 2017 Dhaka, Bangladesh