MD MUHTASIM BILLAH

Data Science | Machine Learning | Statistics | Stochastic Modeling
Personal Website: mdmuhtasimbillah.netlify.app | **Google Scholar ID:** scholar.google.com/mmb
Contact Info: @ mdmuhtasim.billah@wsu.edu | 509-330-6287

linkedin.com/in/mmb039 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

- Top 9% (**bronze medal**), Kaggle Mechanism of Action (MoA) Detection Competition 2020. Link
- 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

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