# MD MUHTASIM BILLAH

Data Science | Machine Learning | Statistics | Stochastic Modeling

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#### **EDUCATION**

Ph.D. Mechanical Engineering

Washington State University

GPA: 3.93/4.00

**苗** Aug 2022

Multiscale Modeling, Stochastic (Monte Carlo) Simulations

M.S. Statistics

GPA: 4.00/4.00

Washington State University

苗 Jan 2022

Relational Database, Machine Learning, Statistical Computing

B.S. Mechanical Engineering

Bangladesh University of Engg. and Tech.

**蒂** Feb 2017

# **EXPERIENCE**

#### Research Assistant

**Washington State University** 

iii 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**

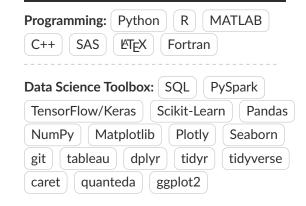
## **Journal Articles**

- 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**



# **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 1 Link2
- Recommender systems for Amazon products using sequential and distributed algorithms (PySpark). 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** 

描 Jan 2018 - Jul 2018 ♥ Dhaka, Bangladesh

Instructor

**Sonargaon University** 

iii May 2017 - Dec 2017 ♥ Dhaka, Bangladesh