

# Mehedi Hasan

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## ACADEMIC CREDENTIALS

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### **Bachelor of Science in Mechanical Engineering**

March 2018 – May 2023

*Bangladesh University of Engineering and Technology*

*Dhaka, Bangladesh*

**CGPA:** 3.86/4.00

**Merit Position:** 17 out of 188 students

## RESEARCH EXPERIENCE

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### **Macro-to-Micro scale Fluids Engineering Lab (M $\mu$ FEL)**

May 2022 – May 2023

*Bangladesh University of Engineering and Technology*

*Dhaka, Bangladesh*

- Acting as an undergrad research student in the thesis group "**Flow Characteristics in a Single Expansion Ramp Nozzle at overexpanded conditions**" under the supervision of **Dr. A. B. M. Toufique Hasan**, Professor, Department of Mechanical Engineering, BUET.
- Performed a simulation-based study using the finite volume method to explore the flow characteristics and shock wave boundary layer interaction in a sern.
- Investigated flow properties, as well as surface properties, under the influence of Flap length and Nozzle Pressure Ratio (NPR).
- **Simulation Software Used:** FLUENT within the ANSYS software framework.

## PROJECTS

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### **Blind Men Hand Gloves for Obstacle Avoiding**

*Electro-Mechanical System Design and Practice*

February 2021 – September 2021

- A gloves designed with a special mechanism of alarming signal for both outdoor and indoor transportation which was also remotely controlled.
- Performed sequential study to identify the electrical equipment and materials that were most appropriate, and affordable while withstanding the applied disturbance.
- **Software Used:** AutoCAD, Arduino IDE, Proteus
- Supervised by **Dr. A K M Monjur Morshed**, Professor, Department of Mechanical Engineering, BUET.

### **Design of a Shell and Tube Heat Exchanger**

*Thermo Fluid System Design*

November 2021 – April 2022

- Developed a parametrical study on a compact and economic heat exchanger, especially for industrial appliances.
- **Software Used:** HTRI, 3EPLus, SOLIDWORKS
- Supervised by **Dr. A K M Monjur Morshed**, Professor, Department of Mechanical Engineering, BUET.

## PUBLICATIONS

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Mehedi Hasan, Md. Asaduzzaman Shanto, Dr. A. B. M. Toufique Hasan (2023). Flow Characteristics in a Single Expansion Ramp Nozzle at overexpanded conditions (Preparing for submission).

## PROFESSIONAL EXPERIENCE

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### **Trainee**

October 2022 – November 2022

*British American Tobacco Bangladesh Limited (BATB)*

*Dhaka, Bangladesh*

- Intensive training prescribed by the Department of Mechanical Engineering, BUET in BATB, an organization in the tobacco sector that manufactures tobacco, and cigarettes.

## TECHNICAL SKILLS

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**Programming Languages:** Python, C.  
**Simulation Software:** ANSYS, COMSOL, HTRI, 3EPlus.  
**Developer Tools:** Matlab.  
**Modelling Software:** SOLIDWORKS, AutoCAD.  
**Graphing and Statistics:** Tecplot 360.  
**Microsoft Office:** Words, Excel, Powerpoint.

## AWARDS & ACHIEVEMENTS

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- **University Merit Scholarship for Academic Excellence** (BUET) 2019 – 2023
- **Dean's List** (BUET) 2019 – 2023
- **Education Board Scholarship** (Dhaka Board, Bangladesh) 2017 – 2021
- **The Duke of Edinburgh International Award** (Silver Standard) 2021
- **Saifuddin Chowdhury Merit Scholarship** (BUET) 2021 – 2022
- **National Science Olympiad** (Regional 3<sup>rd</sup> and National 21<sup>th</sup>) 2017
- **National Creative Talent Hunt** (Regional 1<sup>st</sup>) 2017
- **Bishwo Shahitto Kendro Award** (Best Reader) 2012 – 2015

## SELECTIVE CERTIFICATIONS

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**Python For Everybody** August 2020  
*University of Michigan | Coursera*

**Introduction to Data Analysis Using Excel** May 2020  
*Rice University | Coursera*

## OTHER ACTIVITIES

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Affiliate Member of IMechE BUET Student Chapter  
Member of Multiscale Mechanical Modeling and Research Network (MMMRN)  
Affiliate Member of BUET Automobile Club  
Member of BADHON (A Blood Donation Group)

## REFERENCE

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<b>Dr. A.B.M. Toufique Hasan</b> Professor Department of Mechanical Engineering, BUET Email: toufiquehasan@me.buet.ac.bd	<b>Dr. Mohammad Ali</b> Professor Department of Mechanical Engineering, BUET Email: mali@me.buet.ac.bd
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## DECLARATION

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I hereby state that all the information noted above is accurate to the best of my beliefs and I take full responsibility for the correctness of the information.