

Hamimul Islam Chowdhury

☎ +88 01521534344

@ hamimulislam99@gmail.com

🌐 Personal Website

EDUCATION

Chittagong University of Engineering and Technology (CUET)

Bachelor of Science in Mechanical Engineering

CGPA: 3.19 out of 4.00 (Rank: 60th out of 177)

Feb 2019 – June 2024

Chittagong, Bangladesh

TEST SCORES

Graduate Record Exam (GRE) | General

Sep 2024

Overall Score 310/340 | Quantitative Reasoning 160/170 | Verbal Reasoning 150/170 | AWA 3.0/6

International English Language Testing System (IELTS) | Academic

Dec 2024

Overall Score 7.5/9 | Listening 8.5/9 | Reading 7.5/9 | Writing 7/9 | Speaking 6.5/9

RESEARCH INTEREST

- › Material Characterization
- › Atomistic Simulations
- › Advanced materials
- › Additive Manufacturing
- › Material behavior
- › Computational Mechanics
- › Nanocomposites
- › Machine Learning

RESEARCH EXPERIENCE

Research Assistant | Metallurgy Lab, CUET

Oct 2024 – Present

Topic: **Characterization of Copper-Coated/Uncoated Carboxyl functionalized-SWCNTs in Al-Cu-Mg Metal Matrix Composites via Liquid and Solid-State Processes**

Supervisor: Dr. Md. Abu Mowazzem Hossain, Professor, Dept. of Mechanical Engineering, CUET

Funded by: Directorate of Research & Extension, CUET

- › To fabricate the Al-Cu-Mg metal matrix composites reinforced with single-wall carbon nanotubes (SWCNTs) through liquid and solid-state processes.
- › To study the mechanical, thermal, and electrical properties of fabricated Al-Cu-Mg/C-SWCNTs composites.
- › To study the behavior of composite for various alloy percentages as matrix and SWCNTs as reinforcement with or without coating.
- › To compare the above-mentioned properties of the prepared composites with the parent material.

Undergraduate Thesis

May 2023 – June 2024

Topic: **A Molecular Dynamics Study on Mechanical Properties of Cu-Ag Nanowires (NW)**

Supervisor: Dr. Mohammad Mizanur Rahman, Professor, Dept. of Mechanical Engineering, CUET

Software Utilized: ATOMSK, LAMMPS, OVITO, MATLAB, Latex, OriginPro

- › Constructed crystal structure of Cu-Ag nanowire using ATOMSK and conducted uni-axial loading simulation on LAMMPS.
- › Investigated the tensile properties such as Ultimate Tensile Strength, Modulus of Elasticity of Cu-Ag nanowires.
- › Investigated the effect of silver content and temperature on the tensile behavior of Cu-Ag nanowires.

PRE-PRINT/UNDER REVIEW

1. Recent Advances in Coated Carbon Nanotube Reinforced Metal Matrix Composites: Challenges, Techniques, and Performance Enhancement

M.A.M. Hossain, R. Ferdous, H.I. Chowdhury, M.A.S Siddiqui, M.S. Rabbi

Heliyon, Elsevier | Under review

PUBLICATIONS

1. Investigation of Temperature-Dependent Tensile Properties of Cu-Ag Nanowires with Varying Ag Content: A Molecular Dynamics Study

H.I. Chowdhury, M.M. Rahman

8th International Conference on Mechanical, Industrial and Energy Engineering (ICMIEE 2024) | *Presented*

INDUSTRIAL EXPERIENCE

Industrial Trainee

Bangladesh Industrial Technical Assistance Centre (BITAC)

Sep – Oct 2023

Chittagong, Bangladesh

- Gained hands-on experience in industrial processes, with a focus on machine tools, precision manufacturing, and optimizing operations.
- Learned about the functions and responsibilities of the Industrial Engineering Division (IED), Production Control Division (PCD) and Inspection Section (IS).

SKILLS

Design Software	SolidWorks, AutoCAD, Adobe Illustrator
Simulation and Modeling	ATOMSK, LAMMPS, OVITO
Programming Language	MATLAB, C, Python, HTML
Documentation Tools	MS Office Suite, LaTeX, Zotero
Data Visualization Tools	OriginPro, Tecplot 360, ImageJ
Hands-on Experience	Nanoparticle synthesis, Electroless Plating, Grinding and Polishing

RELEVANT COURSEWORK

Mechanics of Solids, Engineering Metallurgy, Engineering Mechanics, Applied Thermodynamics, Electronics and Microprocessor, Machine Tools and Tool Engineering, CAD and Design Softwares, Fluid Mechanics, Mechatronics.


AWARDS & HONORS

Junior School Certificate Scholarship Talent pool	2014 – 2015
Chittagong Board (Rank: 9th)	
Academic Scholarship CUET	2019, 2022, 2023
Merit based grants (L1-T1, L2-T2, L4-T1)	
1st runner-up Chess	2017
GCC Annual Sports Competition	

AFFILIATIONS

CUET Automotive & Mobility Society (CAMS) Team Member (Frame & suspension)	2023 – 2024
Robo Mechatronics Associaton (RMA) Member	2020 – 2024
Chattogram Student Forum (CSF) Organizing Secretary	2023 – 2024
Mechanical Day 2019, CUET Event Organizer	2019

CERTIFICATIONS

Fundamentals of manuscript preparation Elsevier 	Jan 2025
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REFERENCE

Dr. Mohammad Mizanur Rahman Professor, ME, CUET	Undergrad Thesis Supervisor mmrahman_me@cuet.ac.bd
Dr. Md. Abu Mowazzem Hossain Professor, ME, CUET	Project Supervisor mowazzem@cuet.ac.bd