

FARSIA KAWSAR CHOWDHURY

610/A, Boro Moghbazar, Ramna, Dhaka

(+880) 01775849784 | 15farsiakawsar@gmail.com | [LinkedIn](#) | [ResearchGate](#) | [Facebook](#) | [Google Scholar](#) | [Website](#)

Education

North Carolina State University

August 2025-Present

Ph.D. in Mechanical Engineering

Bangladesh University of Engineering & Technology

June 2019 – June 2024

Bachelor of Science in Mechanical Engineering

Viqarunnisa Noon School & College

GPA-5.00/5.00 with Merit Scholarship

Higher Secondary Certificate (HSC)-Science

June 2016 – June 2018

Viqarunnisa Noon School & College

GPA-5.00/5.00 with Talentpool Scholarship

Secondary School Certificate (SSC)-Science

February 2016

Teaching Experience

Lecturer (Full-Time)

September 2024 - Present

Department of Mechanical Engineering

Anwer Khan Modern University

- **Courses Teaching:** Instrumentation & Measurement, Solid Mechanics I, Mechanics of Machines Lab

Chemistry Instructor

June 2019 - Present

Udvash-Unmesh Academic & Admission Care

Research Experience

Undergraduate Thesis

April 2023 - June 2024

Department of Mechanical Engineering

BUET

- * **Prediction of Crystalline Structure Evolution During Solidification of Aluminum at Different Cooling Rates Using a Hybrid Neural Network Model** (in review at **Materials Today Communications**)

CFDHT Research Group

May 2022 – Present

Dept. of ME

BUET

- * Published an article in a high impact Factor Q1 Ranked Journal
- * Explored methods to do Data Analysis, Validation of journal articles using various simulation softwares (COMSOL, LAMMPS) & graphical analysis tools

Research Grant

Research and Innovation Centre for Science and Engineering (RISE)

BUET

- * RISE Student Research Grant 2023 Recipient (500 USD)
Research Proposal: **An Atomistic Study and Machine Learning Based Approach on the Elastic Properties of Selectively Laser Melted Invar 36 Alloy under Variable Laser Parameters**

Publication Under Preparation

Industrial Production & Engineering Department

BUET

- * **Optimization of the Hard Turning Process Under Dry & MQL Environment by Means of Deep Learning Using Experimental Data**
- * **Implementation of U-Net & LLMs for machining(turning, surface finishing) optimization (collaboration)**

Professional Experience

Bangladesh Industrial Technical Assistance Center (BITAC) | Industrial Attachment Trainee

November 2023

- Received three-week comprehensive technical training at BITAC, Dhaka & prepared a detailed report & presentation on that. Gained insights into modern manufacturing techniques including Automatic CNC Machines of models CM-1, BF-1, BF-5, Computer Aided Engineering (CAE), Precision Wire Cutting using Electron Discharge Machine and 3D Printing.

Inovace Technologies | R&D Intern

December 2022 – February 2023

- Did research on & helped in developing IOT based quality control solution for an MNC to **optimize washing powder packaging, addressing discrepancies in packet mass to ensure accurate and consistent filling.**
- Prepared a report to investigate reasons for **excessive electric bills in a supermarket, identifying discrepancies in chiller maintenance as a key contributor.**

Unilever Bangladesh | Uplift Mentee

January 2024 – May 2024

- "UPLIFT" is Unilever Bangladesh's flagship mentorship programme designed to help 3rd and 4th year students unleash their full potential.

Publications

- Koushik Dey, **Farsia Kawsar Chowdhury**, Anindya Sen, Arnab Mustafi Arka, Oyshee Chowdhury, Hridoy Roy, Md Zillur Rahman, Graphene and its hybrid materials: Properties and applications, Reference Module in Materials Science and Materials Engineering, Elsevier, 2023, , ISBN 9780128035818, <https://doi.org/10.1016/B978-0-323-96020-5.00214-4>.
- Jamy RH, Chowdhury S, **Chowdhury FK**, Saha S. Analyzing overall thermal behaviour of conjugate MHD free convection in L-shaped chamber with a thick fin. Case Studies in Thermal Engineering. 2023 Aug 1;48:103137.(DOI:<https://doi.org/10.1016/j.csite.2023.103137>)
- Rafi B. Dastagir, Shorup Chanda, Farsia K. Chowdhury, Shahereen Chowdhury, K. Arafat Rahman, Prediction of crystalline structure evolution during solidification of aluminum at different cooling rates using a hybrid neural network model, Results in Engineering, Volume 25, 2025, 104578, ISSN 2590-1230, <https://doi.org/10.1016/j.rineng.2025.104578>.

Projects

Antbot | Undergrad Project–Electromechanical System Design | *Python, Arduino, ESP32*

- Developed a walking intelligent quadruped robot using Arduino, Forward & Reverse Kinematics & Deep Learning algorithm

Martian Drone – Nirveek | *SolidWorks*

- Designed our drone Nirveek 1.0 for IPAS Challenge 2021 which got innovation award by Mars Society South Asia. This was designed for conducting operation on Mars

Lithium-ion Battery Thermal Management (BTM) System by Finned Tube Heat Exchanger

| *HTRI, SolidWorks, Python*

- Did this project as a part of ME-310 'Heat Transfer Equipment Design' sessional course. The purpose of this project was to investigate a finned tube heat exchanger-based thermal management (BTM) system for lithium-ion batteries. SolidWorks was used as a design software for the initial design of the heat exchanger and for the thermal calculations needed for design optimization, we used HTRI. The effect of using fins was further analyzed and quantified in our study

Terra-BIN | *Solar Power Based Smart Waste Composter & Compactor for Urban Areas*

- An integrated IOT based solar powered composter for efficient organic waste management in Dhaka City which promotes circular economy. Solar based compactor for canteens and parks is the second project in the pipeline.

Aquamonitor | *IOT based Project*

- An integrated IOT based system for water quality monitoring and efficient water billing system in Bangladesh. This project got the Champion award in National Stem Competition.

Low-cost snake repellent vaporizer for tea workers in the Sylhet district | *Design project for Finlay Bangladesh*

Honors & Awards

- * Honda Y-E-S (Young Engineer and Scientist's) Award 2023 (Scholarship of USD 3000 from Honda Foundation, Japan for bringing ecotechnology into action)
- * Huawei Seeds For The Future 2023 (Bangladeshi Delegate at Asia Pacific Seeds For The Future Summit, China)-Champion
- * International Blockchain Olympiad 2022-Honorable Mention
- * Shoktikonna Leadership Cohort 2023 by World Bank & European Union
- * 1st Runner Up-Women In Tech 2023 by Huawei & UNESCO-Top Performer-
- * International Planetary Aerial System Challenge 2021(IPAS) by Mars Society South Asia-Innovation Award
- * European Rover Challenge 2022, Kielce , Poland-8th Position
- * University Rover Challenge 2022, Utah, USA-Finalist
- * Bangabandhu Innovation Grant (BIG) 2023-Finalist
- * Project Showcasing-BUET Mechanical Festival 2023-1st Runner Up
- * BASIS National ICT Award 2022- Tertiary Student Category
- * National STEM Competition-2021 by bdSTEM Organization-Champion
- * BIKIRON- A Sustainable Energy Innovation Challenge 2021-Champion (Ministry of Power, Energy & Mineral Resources & German government international aid agency)
- * Yearly Award of Recognition 2021-2023 by BUET for winning international competitions three times
- * Women Techpreneur Season-1 by HULT Prize Foundation & EMK Center – Champion
- * FemTech Challenge 2022 by Women In Digital- 1st Runner Up
- * Marks All Rounder 2014 – 2nd Runner Up (Extempore Speech)This was one of the most popular talent hunt show that was aired in NTV for 3 months

- * Best Girl Award-2018- Given for 12 years academic & Co-curricular excellence by Viqarunnisa Noon School & College
- * National Children Award 2015 – Children Literature Category
- * Global Unitalks International Public Speaking Competition-Winner
- * TIB(Transparency International Bangladesh) Anti corruption Public Speaking Contest -Finalist-2017
- * Creative Talent Hunt 2016 by Education Ministry of Bangladesh- Champion (Dhaka District)

International Conference & Summit

- * Huawei Asia Pacific Seeds For The Future Summit 2023 | China
- * WePower Regional Conference 2024(hosted by The World Bank’s South Asia Gender and Energy Facility (SAGE)) | Sri Lanka
- * Bangladesh Youth Delegation To India 2022

Technical Skills

Computer Languages: C, Python , MATLAB

Research Software & Tools: COMSOL MULTYPHYSICS, LAMMPS, Tecplot, LaTeX, EndNote, AtomsK, OVITO, PyTorch

Developer Tools: Git, Google Cloud Platform, VS Code, PyCharm, Google Colab, Jupyter Notebook, Arduino

Libraries: SciPy, pandas, NumPy, Matplotlib

Office Application: Microsoft Office Suite, Canva

CAD Software: SolidWorks (Certified SolidWorks Associate), AutoCAD

Leadership / Extracurricular

Team Interplanetar-BUET Mars Rover Team	March 2020 – December 2022
<i>Mechanical & Science Mission Design Team</i>	<i>BUET</i>
IMEchE BUET Student Chapter	June 2023 — Present
<i>Vice Chair</i>	<i>BUET</i>
Directorate of Continuing Education	February 2023–Present
<i>Website Design & Maintenance, Content Writing</i>	<i>BUET</i>
Edward M. Kennedy Center	January 2022 – April 2023
<i>Envoy</i>	<i>Dhaka</i>
Viqarunnisa Noon School & College	June 2015 — June 2017
<i>Assistant Headgirl</i>	