

MD. DIDARUL ISLAM

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EDUCATION

Shahjalal University of Science and Technology, Sylhet
B.Sc. in Physics

January 2019 - March 2024
CGPA: 3.67/4

RESEARCH INTEREST

- Condensed Matter Physics
- Density Functional Theory
- Material Science
- Computational Physics
- Big Data And Machine Learning

CONFERENCE PRESENTATIONS

- “Electronic Characterization of FeO using Density Functional Theory with Hubbard Corrections.”: **Md. Didarul Islam**, Md. Jahidul Islam, Afroza Akter, Md. Enamul Hoque. National Conference On Physics For The 21st Century, Khulna University, May 2024. (Accepted For Oral Presentation)
- “Electronic Structure Investigation of Iron Oxides(FeO and Fe₂O₃) Using Density Functional Theory: A Comparative Study With Experimental Observations”: Md. Jahidul Islam, **Md. Didarul Islam**, A. Akhter, M.M Chowdhury and M.E.Hoque. International Conference on Physics – 2024, Bangladesh Physical Society, Dhaka, May 2024. (Accepted For Poster Presentation)

CONFERENCE PUBLICATIONS IN PROGRESS

- “Comparative Study of ZnO Nanoparticles: Experimental Evaluation and Density Functional Theory Predictions of Electronic and Optical Properties”: **Md. Didarul Islam**, Md. Jahidul Islam, and M.E. Hoque. ICMIME 2024 – International Conference on Mechanical, Industrial, and Materials Engineering, December 2024. (Accepted For Full Paper Submission)

PROJECTS

- **Deep Learning - 1**
Cyclone Track Prediction
In this project, we build a Conv2D-LSTM model to predict the track of tropical cyclones using ERA5 reanalysis Data. [Link](#)
- **GPU Accelerated Quantum-Espresso**
We have configured a High-Performance Computing (HPC) node equipped with two Nvidia GTX 1080 Ti GPUs for Quantum Espresso. [Link](#)
- **IOT Project - 1**
Nodemcu Smart Switch
In this project, we used an ESP8266 microcontroller to control the nodes of HPC remotely. [Link](#)

HONORS AND AWARDS

- Bronze Medal, University Physics Competition – 2023. [Link](#)
- Bronze Medal, University Physics Competition – 2022. [Link](#)
- 20th position in International Theoretical Physics Competition – 2021.
- Bronze Medal, University Physics Competition – 2021. [Link](#)
- General Scholarship in Secondary School Certificate – 2016
- Talent Pool Scholarship in Junior School Certificate – 2013
- Talent Pool Scholarship in Primary School Certificate – 2010

PROFESSIONAL CERTIFICATES

- Foundations: Data, Data, Everywhere(Google). [Link](#)
- Introduction to Programming with MATLAB. [Link](#)
- Machine Learning (Stanford University). [Link](#)

TECHNICAL SKILLS

Language	C, Matlab, Python
Python Packages	Numpy, Pandas, Matplotlib, SciPy, Cartopy, Keras, Tensorflow
Software	Quantum Espresso, Linux, Vesta, Xcrysden, Latex, Excel, Powerpoint

TEACHING EXPERIENCE

- Lecturer at Chemistry at Technical Coaching Center.
- Lecturer at Chemistry Neuron Coaching Center.
- Teaching Eleven Grade and A level students as a home tutor.

EXTRA-CURRICULAR ACTIVITIES

- Founder member of the “ALOR PATHSHALA” humanitarian organization.
- Participated in a marathon organized by the “Save the Children” foundation.
- General Member of the SUST Physics Society.
- General Member of Copernicus Astronomical Memorial (CAM-SUST)
- General Member of the Bangladesh Geophysics Union.

REFERENCES

Dr. Enamul Haque
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ofaruk_sust@yahoo.com