

Ratul Kumar Ghosh

Dhaka, Bangladesh

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Academic Credentials

Pabna University of Science and Technology |

Pabna, Bangladesh

March 2016 - July 2022

B.Sc in Electrical and Electronic Engineering

Major Coursework:

- Electromagnetic Field and Wave
- Material Science and Engineering
- Atomic Physics
- Vector Calculus
- Engineering Mathematics
- Digital Signal Processing
- Linear Circuit

Research Experience

❖ Undergraduate Thesis Work

November 2021 - July 2022

Pabna University of Science and Technology

Thesis Title: "A Comparative Study of Perturb-and-Observe and Increment Conductance Maximum Power Point Tracking Techniques for PV Systems"

- Executed simulations of PV systems by MATLAB and Simulink at first.
- Performed research and laboratory experiments for tracking maximum power point by using some algorithm
- Accomplished thesis writing, referencing, and edited assigned portions of proposals and project reports.

❖ Research work

December 2023- ongoing

Mahdy Rahman Chowdhury private research academy

Project title: Computational Design and Mathematical analysis of Polarization Insensitive Broadband or Multiband or Single-band Metamaterial Absorber

- Investigated the design and optimization of metamaterial absorbers for enhanced electromagnetic wave absorption using CST Microwave Studio, COMSOL Multiphysics, and MATLAB. Developed proficiency in these software applications for electromagnetic simulations.
- Developed a robust mathematical framework to validate the accuracy of metamaterial absorber simulations performed in software and aligned with theoretical predictions of relative permittivity and permeability.
- Utilized data analysis techniques to generate informative visualizations of simulation

Research Interests

Metamaterial Absorber, Plasmonics, Optics, Photonics, Computational and Theoretical Electromagnetics

Teaching Experience

Mathematics and Physics Tutor

2016-2022

- Taught, Examined and Graded a group of students on Mathematics and Physics
- Mentored young science student on how to do experiments in Physics
- Prepared students for the examination of Junior, SSC and HSC board exam

Test Scores

International English Language Testing System (IELTS)

August 2023

Overall: 6.5 | Listening: 6 | Reading: 8 | Writing: 6 | Speaking:6

Technical Skills

Simulation Software: COMSOL Multiphysics 6.1, CST Microwave Studio, MATLAB Simulink

Coding Language: Python, MATLAB

Writing Tools: MS office Packages, Mendeley, Notion

Image Processing Tools: Inkscape

Extracurricular Activities

- Written articles in the about space science in magazine called 'Open Space' 2016-2019
- Organized Pi-day discussion conducted by IEEE-2020, PUST
- Participated in Engineering Skills Development by ESAB -2019, PUST
- Organized and Participated Workshops on Automation, Digital Electronics devices conducted by IEEE- 2018(PUST)
- Participated and Won in Writing Science Topic at INTER UNIVERSITY SCIENCE FESTIVAL-2017, RUET

Voluntary Experience

- Member (2018-2022) of IEEE, IEEE PUST PUST Student Branch
- Member (2019-2022) of Engineering Students Association of Bangladesh, ESAB PUST Unit
- Blood Donor- donated more than 5 bags of blood in my life
- Member of Hindu Welfare Trust- Barni Branch, Jashore, Bangladesh

References

T.H.M. Sumon Rashid (Thesis Supervisor)

Assistant Professor

Electrical and Electronic Engineering

Pabna University of Science and Technology

Email: sumoneee@pust.ac.bd

Diponkar Kundu (Chairmen)

Associate Professor

Electrical and Electronic Engineering

Pabna University of Science and Technology

Email: d.kundu.eee@pust.ac.bd