

MD. RASHED

B.Sc. (Engr.) in Information and Communication Engineering, PUST
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PROFILE SUMMARY

I received my B.Sc. (Eng.) in Information and Communication Engineering from Pabna University of Science and Technology (PUST). Throughout my academic journey, I have actively engaged in academic, co-curricular, and research activities. I have successfully completed several government-funded research and innovation projects and have published research papers in peer-reviewed international journals. My research interests include Biomedical Image Processing, Deep Learning, Machine Learning, and the Internet of Things (IoT). I am currently seeking a Research Associate/teaching position at a university where I can contribute to both education and research.

EXPERIENCE

- 01 March 2024
To Present [1] **Research Assistant- BioRAIN Lab**
Website Address: <https://biorainlab.net/author/md.-rashed/>
- 01 July 2024
To 01 June 2025 [2] **Assistant Researcher**
Department of ICE, Pabna University of Science and Technology (PUST).




EDUCATIONAL QUALIFICATION

- B.Sc. (Engineering)-2023**
(Exam held-2025 [Due to COVID-19]) Pabna University of Science and Technology-PUST, Pabna-6600, Bangladesh.
Department: Information and Communication Engineering (ICE).
CGPA: 3.73 (Scale of 4)
Thesis: A Fully Convolutional Network for Multi-Anatomical Structure Segmentation in Ultrasound Imaging.
- Higher Secondary Certificate-2019** Charfasson Govt. College
Group: Science, **GPA:** 4.58 (Scale of 5)
- Secondary School Certificate-2017** Osmangonj High School, Charfasson, Bhola, Bangladesh.
Group: Science, **GPA:** 4.82 (Scale of 5)

RESEARCH GRANT

- **AI-Based Real-Time Fire & Accident Detection System –**
Funded by the University Grants Commission (UGC). This project focused on developing a real-time surveillance system using YOLOv8 to detect fire incidents, road accidents, and vehicle number plates from CCTV footage. As a Project Assistant, I contributed to data preprocessing (including histogram equalization and optical flow), model training, and system integration. I also supported the implementation of a dual-alert notification system using Telegram and Twilio. The system efficient and scalable solution for enhancing public safety in urban Bangladesh.

CERTIFICATION

-  **Deep Learning with PyTorch: Image Segmentation –** by Coursera Project Network
Issuing authority : Coursera
Credential ID : J9DDSNF5RK7U
-  **Python for Everybody (Specialization) –** by University of Michigan
Issuing authority : Coursera
Credential ID : 4VWXRCJBTJSA
-  **Certificate of Appreciation as Reviewer –** ICEEI2025

Issuing authority : 10th International Conference on Electrical Engineering and Informatics.
Venue and Date : November 13th-15th 2025, in Kuching, Sarawak, Malaysia.

RESEARCH ARTICLES

Journal Paper [5]

- 2026 [1] **Md. Rashed**, Md. Imran Hossain, Abdullah Nazib, Md. Riad Hassan. (2026). A Comparative Analysis of Fully Convolutional Networks for Multi-Class Segmentation in US Medical Images. Computer Methods and Programs in Biomedicine. [Submitted]
- 2026 [2] **Md. Rashed**, Md. Imran Hossain, Md Jamil, Md. Riad Hassan, Md. Kamrul Hasan, Adnan Kavak and Özgür Çakır. (2026). SE-UNet: Spatial and Channel Refinement for Robust Multi-Anatomical Structure Segmentation in Abdominal Ultrasound. Biomedical Signal Processing and Control. [Submitted]
- 2026 [3] **Md. Rashed**, Mohammad Kamrul Hasan, Md. Imran Hossain, Md. Sarwar Hosain, Abdul Hadi Abd Rahman, & Shayla Islam. (2026). Trustworthy Deep Feature Extraction and Ensemble-Based Machine Learning Approach for Breast Cancer Detection. Healthcare Technology Letters. [Accepted not online yet]
- 2025 [4] **Md. Rashed**, Md Imran Hossain, Akif Mahdi, and Gulam Mustofa. "Hybrid Machine Learning Models for Accurate Type 2 Diabetes Mellitus Prediction Using a Stacking Classifier and a Meta-Model Approach." Cureus Journals 2, no. 1 (2025).
- 2024 [5] Hossain, Md Imran, Md Mojahidul Islam, Tania Nahrin, **Md Rashed**, and Md Atiqur. "Improving Speech Emotion Recognition and Classification Accuracy Using Hybrid CNN-LSTM-KNN Model." Journal homepage: www. ijpr. com ISSN 2582: 7421.

Conference Paper [8]

- 2025 [6] **M. Rashed**, M. I. Hossain and A. Kavak, "Da-RDU-Net: Dual Attention and Residual Double U-Net for Colorectal Polyp Segmentation," 2025 6th International Conference on Communications, Information, Electronic and Energy Systems (CIEES), Ruse, Bulgaria, 2025, pp. 1-6, doi: 10.1109/CIEES66347.2025.11300119. [**Received the Best paper Award**]
- 2025 [7] **M. Rashed**, M. I. Hossain, M. Z. Islam and F. Naznin, "An Intelligent Video Surveillance System with Temporal-Enhanced YOLOv8 for Real-Time Fire, Accident, and License Plate Detection in Public Safety Monitoring," 2025 IEEE International Conference on Future Machine Learning and Data Science (FMLDS), Los Angeles, CA, USA, 2025, pp. 139-144, doi: 10.1109/FMLDS67896.2025.00032.
- 2025 [8] **Rashed, Md.**, Md Basim Al Zabir Shammo, Md Imran Hossain, Md Anwar Hossain, and Jakaria Habib. "A Machine Learning Framework for Stress Detection Using Photoplethysmography (PPG) Signals." In 2025 International Conference on Quantum Photonics, Artificial Intelligence, and Networking (QPAIN), pp. 1-5. IEEE, 2025.
- 2025 [9] L. Islam, Md. I. Hossain, **Md. Rashed**, M. B. A. Z. Shammo, M. H. Mohona, and Md. A. Miya, "Machine learning-based prediction of nightmares in children: A pediatric psychological integration," in Proc. 2nd IEEE Conf. on Computing Applications and Systems (COMPAS), Oct. 23–24, 2025.
- 2025 [10] Islam, Md Habibul, **Md Rashed**, Nitun Kumar Podder, Md Imran Hossain, and Ankur Kumar Mondol. "Enhancing COPD Detection with WaveNet: Assessing the Efficacy of Deep Learning Model." In 2025 International Conference on Quantum Photonics, Artificial Intelligence, and Networking (QPAIN), pp. 1-6. IEEE, 2025.
- 2024 [11] **Md. Rashed**, Md Imran Hossain, and Md Anwar Hossain. "Enhanced Prediction of Type-2 Diabetes Mellitus Using an Integrated Ensemble Framework (IEF)." In 2024 27th International Conference on Computer and Information Technology (ICCIT), pp. 2512-2517. IEEE, 2024.
- 2024 [12] Hossain, MD. R., **Rashed, Md.**, Hossain, Md. I., Mahdi, A., & Sumayta Shama. (2024). RA-UNET: A deep learning approach for precise colorectal polyp segmentation. In Undergraduate Conference on Intelligent Computing and Systems (UCICS 2024) [Conference-proceeding]. <https://ucics.org/>
- 2024 [13] Kundu, M. R., Hossain, Md. I., **Rashed, Md.**, Rahim, Md. A., & Shama, S. (2024). Continuous Cuffless Blood Pressure Monitoring with Deep-Learning Techniques Utilizing PPG and ECG Features [Journal-article]. Undergraduate Conference on Intelligent Computing and Systems (UCICS 2024). <https://ucics.org/>

SCHOLARSHIPS

➤ Fully Funded Master's Scholarship

- **Program:** M.S. in Computer Science
- **University:** Kocaeli University, Izmit, Turkey.
- **Session:** Fall 2025
- **Status:** Admitted; Enrollment not commenced due to visa constraints

- University Merit Scholarship – 2021
- University Merit Scholarship – 2022
- University Merit Scholarship – 2023

📄 AWARDS

- **Best Paper Award**, our paper “Da-RDU-Net: Dual Attention and Residual Double U-Net for Colorectal Polyp Segmentation” received the Best Paper Award at the IEEE CIEES 2025 Conference held in Ruse, Bulgaria, between November 26-28, 2025.
- **Best Idea Donor**, Innovation Showcase organized to implement e-Governance and Innovation Plan 2023-2024 under Annual Performance Agreement 2023-2024, PUST.

📄 SKILLS

Programming Language	:	Python, C, C++, Java, PHP, HTML, MATLAB, Arduino
Database	:	Microsoft SQL Server, SQLite, MySQL
Operating System	:	Windows, Linux
Web Framework	:	Django, Bottle, Flask, WordPress (CMS)
Computer Tools	:	Cisco Packet Tracer, MATLAB, Proteus Design Suite, PICKit, PyCharm, LaTeX, and Microsoft Office.

📄 LANGUAGE SKILLS

English	:	Have a good command of speaking, listening, reading, and writing. English was the medium of instruction throughout the B.Sc. (Engineering) program.
Bangla	:	Native Language

📄 PROJECTS

➤ **IoT-Based Smart Waste Management System**

This project proposes an Internet of Things (IoT)-based smart trash cans observing the system, which can detect the current trash receptivity. The main goal of this project is to develop a smart garbage cleanup that helps to keep our environment clean and gives a distinctive impression to the senses

➤ **Design and Implementation of the Dual-Axis Solar Tracking System**

The capability of photovoltaic (PV) panel to generate energy approximately follows the intensity of the sunlight on the panel. A dual-axis solar programmable logical controller (PLC) based automatic tracking system and its supervisory and control system was designed and implemented.

➤ **Design of Smart Home Security System using Object Recognition and PIR Sensor**

This research aims to design and implement a home security system with the capability for human detection. The PIR sensor is installed on the Arduino and the webcam is mounted on Raspberry Pi 3. The Raspberry Pi 3 is used to process inputs from received sensors and process images for human detection. The PIR sensor detects the movement around the sensor to activate the webcam to capture a picture.

➤ **ICE Connect App: A Unified Information Portal for PUST ICE Department**

"ICE Connect" is an Android app developed for the Department of Information and Communication Engineering (ICE) at Pabna University of Science and Technology (PUST). It provides detailed profiles of all ICE students and faculty members, enabling easy access to academic information and contact details. The app fosters improved communication and collaboration within the department, streamlining interactions between students and teachers.

📄 EXTRA-CURRICULAR ACTIVITE

Volunteering	<ul style="list-style-type: none"> • Research Secretary at ICE Association. • District School Team Manager at ICT Olympiad Bangladesh. • Chief of Course Management at RRDW-Robotics Research and Development Wings. • Campus Ambassador at Bangladesh Career Olympiad. • Coordinator of Volunteers at Solver Green (IT org) • President, Barisal Student Welfare Association
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REFEREES

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DECLARATION

I do hereby declare and certify that all information stated above in this CV is true and complete to the best of my knowledge and belief.



Signature