

Ekram Hossain

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[LinkedIn](#) | [GitHub](#) | [Portfolio](#) | [Codeforces](#)

OBJECTIVE

To leverage my extensive academic and professional experience in computer science to contribute as a lecturer in CSE, sharing my knowledge of advanced technologies, research, and hands-on expertise while inspiring and guiding students toward success

EXPERIENCE

NPI University of Bangladesh (NPIUB)

Lecturer, Department of CSE

Dhaka, Bangladesh

Aug 2026 – Present

- Deliver lectures and practical sessions on core Computer Science and Engineering subjects.
- Develop course materials, laboratory assignments, examinations, and other academic resources to support student learning.
- Mentor students in academic projects, programming, problem-solving, and research activities.
- Participate in departmental academic activities, workshops, seminars, and other university events.

Saic Institute of Management & Technology (SIMT)

Computer Science Instructor

Dhaka, Bangladesh

Feb 2025 – July 2026

- Deliver lectures and tutorials on core Computer Science subjects, including Data Structures, Algorithms, Database Systems, and Web Development.
- Mentor and guide students in academic projects, research, and programming contests.
- Design and implement course materials, lab assignments, and exams to align with modern industry practices.
- Engage in departmental activities, workshops, and academic events to enhance student learning outcomes.

Nifty IT Solution Ltd

Frontend Intern

Dhaka, Bangladesh

Sept 2023 – Dec 2023

- Worked with React, Redux, TypeScript, and GraphQL.
- Improved website usability and speed.
- Collaborated effectively with the development team.

THESIS & RESEARCH WORK

Smart NID Security System: Developed a **privacy-preserving digital identity verification system** using **AES-256 encryption** and **Two-Factor Authentication (OTP)**. The system ensures secure handling of sensitive identity data while enabling reliable verification mechanisms.

DOI: [10.1109/ECCE64574.2025.11012996](https://doi.org/10.1109/ECCE64574.2025.11012996)

Brain Tumor Segmentation: Designed a **ResUNet-based deep learning model with Tversky loss** to address class imbalance in medical image segmentation. Achieved high performance in terms of **IoU and Dice coefficient**, improving tumor detection accuracy.

DOI: [10.1109/QPAIN66474.2025.11171708](https://doi.org/10.1109/QPAIN66474.2025.11171708)

Protein Structure Prediction: Applied **machine learning techniques (Extra Trees Regression)** combined with **Explainable AI (SHAP/LIME)** to predict protein structural stability. Enhanced interpretability and predictive performance in computational biology tasks.

DOI: [10.1109/NCIM65934.2025.11159879](https://doi.org/10.1109/NCIM65934.2025.11159879)

Quantum-Resistant Blockchain: Investigated **post-quantum cryptographic approaches (Round5)** to strengthen blockchain security against quantum threats. Focused on secure key generation and compliance with modern cryptographic standards.

DOI: [10.1109/STI69347.2025.11367567](https://doi.org/10.1109/STI69347.2025.11367567)

i-Glove Assistive System: Developed a **CNN-based wearable assistive device** for deaf-blind individuals to recognize banknotes. The system translates visual input into **vibration-based feedback**, achieving high classification accuracy.

DOI: [10.1109/RAAICON64172.2024.10928364](https://doi.org/10.1109/RAAICON64172.2024.10928364)

SKILLS & TECHNOLOGIES

Expertise: Python, Django, Django REST Framework (DRF), PostgreSQL, RESTful APIs, React.js, HTML5, Tailwind CSS, Redux

Comfortable: JavaScript, C++, MongoDB, MySQL

Familiar: Express.js, TypeScript, GraphQL

Tools: Visual Studio Code, Git/GitHub

Interpersonal: Leadership, Teamwork, Communication, Flexibility

PROBLEM SOLVING

Solved 800+ programming problems across online judges (algorithms, data structures, graphs, DP, number theory).

Profiles: [Codeforces](#), [Leetcode](#)

PROJECTS

[Solar Management Hub](#)

GitHub: [Frontend Code](#) | [Backend Code](#)

- **User Dashboard:** Add bank account, create inverter, register devices, set location, upload signature, and send requests.
- **Admin Dashboard:** Manage users, verify bank info, manage brands, and approve requests.

Tech: Python (Django, DRF), React.js, Tailwind CSS

ACHIEVEMENTS

- Champion – ASL Brainiac Programming Competition (2022)
- 47th place – Phitron Programming Contest @ HackerRank (2022)
- Top 50 – Code Samurai Hackathon (2022)
- Runner Up – Independence Day Programming Contest (2023)

EDUCATION

Mymensingh Engineering College (Affiliated with University of Dhaka)

B.Sc. in Computer Science & Engineering, Bangladesh

Bangladesh

2019 – 2024

CGPA: 3.51 / 4.00

Al-Amin Academy School and College

Higher Secondary Certificate (H.S.C.)

Chandpur, Bangladesh

2016 – 2018

Group: Science

GPA: 4.50 / 5.00

Chandpur Hasan Ali Government High School

Secondary School Certificate (S.S.C.)

Chandpur, Bangladesh

2014 – 2016

Group: Science

GPA: 5.00 / 5.00

ACTIVITIES

- Executive of Programming – MEC Computer Club
- Instructor – Crash course on Data Structures & Algorithms (MEC Computer Club)

CERTIFICATES

- [Champion – ASL Brainiac Programming Contest](#)
- [Runner Up – Independence Day Programming Contest](#)
- [Internship Certificate](#)
- [Publication Certificate](#)

