

Zarin Rafah Chowdhury

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github.com/ZarinRafah13

Research Interest

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| Sentiment Analysis | Clinical Decision Support Systems |
| • Natural Language Processing | • Explainable AI (XAI) in Healthcare |
| • Bio-medical Natural Language Processing | |

Education

- Bangladesh Army University of Science & Technology (BAUST),** January, 2019 – January, 2023
B.Sc in Computer Science & Engineering
- GPA: 3.79/4.0 (marksheet)
 - Academic Excellence: Secured 3rd position out of 105 students
 - **Undergraduate Thesis: "Crime Text Classification and Drug Modeling from Bengali News Articles : A Transformer Network-Based Deep Learning Approach"** In this study, we scraped Bengali news from renowned *The Daily Prothom Alo* (2013–2021), flagged drug mentions, and filtered crime-related content. Using BERT, we extracted key features and then classified crimes by type. To isolate drug-linked narratives, we applied zero-shot learning with tailored transformers and used Named Entity Recognition to trace location mentions.

Teaching Experience

- Port City International University** May, 2023 - Present
Lecturer, Department of Computer Science & Engineering
Course Conducted:
1) Machine Learning, 2) Digital Image Processing, 3) Computer Graphics, 4) Object Oriented Programming Language.

Publications

- Hossain, M.M., Chowdhury, Z.R., Akib, S.R.H., Ahmed, M.S., Hossain, M.M. and Miah, A.S.M., 2023, December. **Crime text classification and drug modeling from bengali news articles: A transformer network-based deep learning approach.** In 2023 26th International Conference on Computer and Information Technology (ICCIT) (pp. 1-6). IEEE. DOI: 10.1109/ICCIT60459.2023.10441195
- Jahan, I., Chowdhury, M.Z., Nur, S., Chowdhury, Z.R., Barua, R., Amrine, T. and Sajib, M.H.U., 2024, December. **Bengali Hate Speech Categorization: A Comparison of Hybrid Deep Learning and Transformer-Based Models.** In 2024 International Conference on Recent Progresses in Science, Engineering and Technology (ICRPSET) (pp. 1-6). IEEE. DOI: 10.1109/ICRPSET64863.2024.10955953
- Islam, A.J., Tushar, M.R.A., Salehin, S., Chowdhury, Z.R., Jahangir, M.A. and Datta, P., 2025. **Data-Driven Forecasting of Heart Failure Readmissions: Balancing Accuracy and Interpretability With Machine Learning** In 2025 16th International IEEE Conference on Computing, Communication and Networking Technology (ICCCNT).

Research Contribution

1. **Title: Transformer-Based Approach for Forecasting Solar Irradiance in Southern Bangladesh.**
Proceedings of the International Conference on Multidisciplinary Computer Science, Electrical, Business & Literature, Dhaka, Bangladesh.
Role: Corresponding author.
2. **Title: Multi-Architectural Deep-Learning and Hybrid Ensemble Approaches for Early Alzheimer's Classification.**
Role: 1st author, Corresponding author.
3. **Title: SegMorphFormer: A Hybrid Transformer-Attention Model for Volumetric Brain Tumor Segmentation.**

Role: 1st author, Corresponding author.

Skills & Core Strength

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| Languages: C++ , C, Java, Python. | Strong Leadership. |
| • Data Analytic Tools: MS Excel, Looker Studio, Tableau ,Power BI. | • Adaptability. |
| • Designing Tools: Canva, Visme, Adobe Express. | • Robust Communication Skills. |
| • Spoken Languages: English, Bengali. | • Excellent Planning Skills . |
| | • Competitive Analytical Skills. |

Extra Curricular Awards & Voluntary Experience

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| 1. Batch Coordinator - Department of CSE,
<i>Port City International University (PCIU)</i>
<i>Coordinate academic and administrative activities for a batch of 50 undergraduate students</i> | 2023 - Present |
| 2. Thesis Supervisor- Department of CSE,
<i>Port City International University (PCIU)</i>
<i>Supervising 6 undergraduate thesis projects focused on nlp, image processing, and biomedical applications</i> | June,2025 - Present |
| 3. Advisory Panel Member- PCIU Computer Club (PCC),
<i>Provided strategic guidance on club activities related to programming, machine learning, and technical competitions</i> | October,2024 - Present |
| 4. The Duke of Edinburgh - Bronze Award
<i>The Duke of Edinburgh's Award Foundation Bangladesh.</i> | 2014 - 2015 |
| 5. Vice President - BAUST Cultural Society
<i>Bangladesh Army University of Science & Technology .</i> | 2021 – 2022 |
| 6. Deputy Director (Event Management) - Career Society of BAUST
<i>Bangladesh Army University of Science & Technology .</i> | 2021 – 2023 |
| 7. Campus Ambassador
<i>bdapps, Bangladesh's leading mobile app store.</i> | 2021 – 2022 |
| 8. Honorable Mention
<i>ICPC Dhaka Regional, ICPC,2020 .</i> | 2021 |

Licenses & certifications

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| 1.Introduction to Big Data
<i>University of California San Diego</i> | Sep, 2020 |
| Coursera | |
| 2. Business Data Analysis
<i>By: Laura Paton</i> | Mar, 2023 |
| 3. Business Case Solving
<i>10 Minutes School</i> | Jan, 2023 |
| 4. Introduction to Spanish
<i>Alison</i> | Jun, 2020 |

Recommendation
