

[Rajib Khan]

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· [https://github.com/Rajib4438]

EDUCATION

International University of Business Agriculture and Technology (IUBAT), Dhaka, Bangladesh, Jan 2022 – Jan 2026

[Bachelor of Computer Science and Engineering (BCSE)]

CGPA: 3.47/4.00 | Major CGPA: 3.53/4.00

- Relevant Coursework: Software Engineering, Database Management Systems, Data Structures and Algorithms, System Analysis and Design, Management Information System
- Thesis: "Enhancing Multi-Label Classification in Bengali Contextual Questions using BERT-based Architecture," advised by Md Saidur Rahman

RESEARCH EXPERIENCE

NLP & Machine Learning Research, IUBAT 2023 – Present

[Undergraduate Research] Advisor: [Tanjim Taharat Aurpa]

- Developed a framework using XLM-RoBERTa and Supervised Contrastive Learning (SupCon) to improve multi-label classification in low-resource novel Bengali datasets.
- Curated "PROSHNO BINNASH" a contextual multi-label question-answering dataset comprising 4069 entries sourced from true Bengali texts, leading to a publication in *Data in Brief*.
- Conducted comprehensive data scraping to collect public sentiment data and authored the Introduction section for the Dhaka Metro Rail sentiment analysis research published at *IEEE, ICCIT 2023*.
- Performed data scraping for dataset collection and authored the Introduction and Literature Review sections for the Elevated Expressway sentiment analysis paper published at *IEEE, PEEIACON 2024*
- Independently built the complete dataset and authored the Abstract, Introduction, Related Work, and Conclusion sections for the aspect-based sentiment analysis on Bengali IT service reviews research published at *IEEE, ICCIT 2025*.
- Presented research findings to international scholars and academic peers at the 2026 IEEE QPAIN (CUET, Chattogram) and the 4th IEEE SPICSCON 2025 (University of Rajshahi).

Final Year Project, Development of a Multi-Vendor E-commerce Platform , TechStdio, Oct 2025–Jan 2026

Software Engineer Intern]- Advisor: Md. Saidur Rahman

- Architected and developed a full-scale multi-vendor e-commerce platform using ASP.NET Core Web API, SQL Server, and Angular 17.
- Implemented a specialized seller dashboard enabling vendors to assign delivery riders to area-wise orders, decentralizing logistics directly.

- Designed a streamlined, secure check-out process, integrating the bKash API for online transactions and automated PDF invoice generation.

PUBLICATIONS AND PREPRINTS

- [1] Khan, R., Aurpa, T. T., Rahman, M. S., & Ashrafuzzaman, M. (2025). PROSHNO BINNASH: Contextual Multi-Label Question Answering Dataset for Low-Resource NLP. *Data in Brief* (Elsevier).
- [2] Khan, R., Rakib, A. B., Haque, O., Tabassum, M., Rahman, M. S., & Akter, M. (2026). Aspect-Based Sentiment Analysis of Bangladeshi IT Service Reviews Using Transformer Architectures and Post-Hoc Interpretability. *2026 IEEE 2nd International Conference on Quantum Photonics, Artificial Intelligence and Networking (QPAIN)*.
- [3] Islam, M. A., Khan, R., Rahman, M. S., Emu, S. A., & Anik, M. A. H. (2026). BanglishBERT-CNN-MTL: A Hybrid Multi-Task Learning Framework for Aspect-Based Sentiment Analysis in Low-Resource Banglish Text. *2026 IEEE 2nd International Conference on Quantum Photonics, Artificial Intelligence and Networking (QPAIN)*.
- [4] Tabassum, M., Haque, O., Khan, R., Rahman, M. S., & Akter, M. (2026). Emotion-Aware Token Reweighting for Aspect-Based Emotion Detection in Bangla Text. *2026 IEEE 2nd International Conference on Quantum Photonics, Artificial Intelligence and Networking (QPAIN)*.
- [5] Akter, M., Haque, O., Tabassum, M., Khan, R. (2026). A Hybrid Stacking-Based Framework for Multiclass Road Accident Severity Prediction with Interpretable SHAP Analysis. *2026 IEEE 2nd International Conference on Quantum Photonics, Artificial Intelligence and Networking (QPAIN)*.
- [6] Haque, O., Hossain, A., Tabassum, M., Khan, R., & Tamim, F. S. (2025). BanglaBERT-BiLSTM: A Novel Hybrid Architecture for Multiclass Mental Health Classification in Bengali Social Media Text. *2025 28th International Conference on Computer and Information Technology (ICCIT)*.
- [7] Aurpa, T. T., Jeba, S. M., Khan, R., Ahmed, M. S., & Dash, S. R. (2025). Deep Learning Analysis of Public Sentiment on the Padma Bridge Through YouTube Comments. *2025 IEEE International Conference on Signal Processing, Information, Communication and Systems (SPICSCON)*.
- [8] Jeba, S. M., Khan, R., Ahmed, M. S., Aurpa, T. T., & Dash, S. R. (2024). Sentiment Analysis on the Elevated Expressway in Bangladesh: A Machine Learning and Deep Learning Approach. *2024 IEEE International Conference on Power, Electrical, Electronics and Communication (PEEIACON)*.
- [9] Jeba, S. M., Aurpa, T. T., Siyam, F. H., Khan, R., & Mansia, F. M. (2023). Analysis of Public Sentiment on Dhaka Metro Rail with Transformer-Based Architectures.

2023 26th International Conference on Computer and Information Technology (ICCIT).

<https://scholar.google.com/citations?user=JC4pl4QAAAAJ&hl=en>

CONFERENCE PRESENTATIONS AND POSTERS

Khan, R. (2026, April). [BanglishBERT-CNN-MTL: A Hybrid Multi-Task Learning Framework for Aspect-Based Sentiment Analysis in Low-Resource Banglish Text]. Poster presentation at the 2026 IEEE 2nd International Conference on Quantum Photonics, Artificial Intelligence, and Networking (QPAIN), Chattogram, Bangladesh.

Khan, R. (2025, November). [Deep Learning Analysis of Public Sentiment on the Padma Bridge Through YouTube Comments]. Oral presentation at the 4th IEEE SPICSCON 2025, Rajshahi, Bangladesh.

HONORS AND AWARDS

Level 1 Programme, IUBAT CP Community 2023

Secured 11th position in a selection contest and 19th in a monthly programming contest.

Qualifier, IUBAT Defeat Fest 2023

Successfully qualified at the campus-level debating fest organized by the Debating Forum of IUBAT (DFI).

TECHNICAL SKILLS

- **Programming:** Python, R, SQL, C, C++, Java, C#, JavaScript, TypeScript
- **Frameworks/Libraries:** Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, PyTorch, Hugging Face, Angular 17, ASP.NET Core
- **Tools:** Jupyter Notebook, Google Colab, Power BI (or Tableau), Git, Visual Studio, VS Code, Swagger UI
- **Laboratory/Domain:** Data Analysis, Exploratory Data Analysis (EDA), Data Visualization, Multi-label Classification, Zero-Trust Architecture, DSAS, Statistical Analysis
- **Languages:** Bengali (Native), English (Fluent), Hindi/Urdu (Conversational)

SERVICE AND LEADERSHIP

General Member, IUBAT Innovation and Entrepreneurship Center (IIEC) 2023 – 2024

- [Volunteered as a core organizer for the "Techno Carts V.1" event.

General Member, Debating Forum of IUBAT (DFI) 2023–2024

- Actively participated in campus debate sessions and events.

REFERENCES

Tanjim Taharat Aurpa , Chairman

Department of Data Science and Engineering, University of Frontier Technology

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Relationship: Research Advisor and Co-author

Md. Saidur Rahman , Assistant Professor

Department of Computer Science & Engineering, International University of Business,
Agriculture, and Technology (IUBAT)

s.rahman@iubat.edu | +8801911729378

Relationship: [Thesis Advisor and Practicum Supervisor, Course Teacher]