Redwan Ahmed Rizvee

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EDUCATION

- **Department of Computer Science and Engineering, University of Dhaka** — Dhaka, Bangladesh
  Master of Science in Computer Science and Engineering — Jan 2019 - Sep 2021
  CGPA: 4.00/4.00 (Ranked 1st in the class)

- **Department of Computer Science and Engineering, University of Dhaka** — Dhaka, Bangladesh
  Bachelor of Science in Computer Science and Engineering — Jan 2015 - Dec 2018
  CGPA: 3.85/4.00 (Ranked 1st in the class)

- **Notre Dame College** — Dhaka, Bangladesh
  Higher Secondary School Certificate — 2014
  GPA: 5.00/5.00

- **Ideal School and College** — Dhaka, Bangladesh
  Secondary School Certificate — 2012
  GPA: 5.00/5.00

EXPERIENCE

- **University of Dhaka** — Dhaka, Bangladesh
  Lecturer, Full-Time — April 2023 - Current
  - ○ **Courses Conducted**: Software Design Pattern, Micro-controller, Software Engineering

- **East West University** — Dhaka, Bangladesh
  Lecturer, Full-Time — Feb 2022 - March 2023
  - ○ **Courses Conducted**: Structured Programming, Algorithms, Artificial Intelligence

- **TigerIT Bangladesh Limited** — Dhaka, Bangladesh
  Research Scientist — Mar 2020 - Feb 2022
  - ○ **Responsibilities**: Worked on sensor data analysis, rule-based algorithms, and encoder-decoder with attention-based deep learning architectures focusing on sound processing and text prediction

- **Data Mining and Machine Learning Research Lab** — Dhaka, Bangladesh
  Ex. Research Assistant and Current Principal Investigator — 2018 - PRESENT
  - ○ **Responsibilities**: Designed and implemented pattern mining algorithms and data structures for sequential and time series datasets. Worked on designing methods and metrics for correlation analysis and cluster generation.

- **Data and Design Lab** — Dhaka, Bangladesh
  Research Assistant — 2019 - 2021
  - ○ **Responsibilities**: Worked on three projects, Bangladesh Quality of Life Indicators (BDQL), Nightlights for Economic Condition (NEC), and Newspaper Data Analysis to Understand Coronavirus Awareness(NCA). Worked on developing visualization tools (BDQL), data collection (BDQL, NCA), data cleaning, processing, and analysis (BDQL, NEC, NCA), and manuscript preparation (NEC, NCA)

- **Bangladesh Rural Advancement Committee (BRAC)** — Dhaka, Bangladesh
  Junior Consultant — Apr 2019 - Sep 2019
  - ○ **Responsibilities**: In this project, I with fellow teammates designed a system to uniquely identify beneficiaries who are taking various services from BRAC's different programs based on only their basic information in spite of having repetition, spelling mistakes, and variation.

HONORS AND AWARDS

- **Dean's Award, 2019**, for outstanding achievement from the Faculty of Engineering and Technology, University of Dhaka, Session 2014-15

- **Azfar Alam Memorial Gold Medal, 2019**, for achieving excellent results from the Department of Computer Science and Engineering, University of Dhaka, Session 2014-15.

- **Professor Lutfar Rahman Merit Award, 2022**, from the Department of Computer Science and Engineering, University of Dhaka for acquiring the first position in the batch in B.Sc.

- **Fellowship Scholarship**, from ICT Division, People's Republic of Bangladesh to conduct high-quality research that could keep an impact on the socio-economic life of the people of Bangladesh.

Research Interest

Data Mining, Machine Learning, Reinforcement Learning and Interpretability

Key Skills

- **Programming**: C++, C, Python, Java, SQL, Unix scripting
- **Machine Learning and Data analysis**: PyTorch, Keras, Tensorflow, Pandas, Numpy, SciPy, Scikit-learn, Gensim.
- **Python Framework**: Django, React Native, Flask
- **Software and Code Maintenance**: GIT, Docker
- **Web Development Language**: HTML5, CSS, Javascript, Bootstrap, PHP, React, Node.js, Express.
- **Operating Systems**: Windows, Ubuntu.
- **Database Management**: MySQL, Oracle SQL, PostgreSQL, Firebase.

Extra Curricular Activities

- **CSEDU Student's Club**: Assistant General Secretary(2014-2017).
- **ShoShikkha**: Worked as a writer in ShoShikkha which targeted to spread various aspects of educational knowledge among people of different ages in the native language Bangla.
- **Competitive Programming**: Participated in competitive programming till the third year during the undergraduate program. Attended ICPC Regionals Dhaka, 2017, ranked 21.

Selected Projects

- **MSCLM-A** | *Python*
  A Memory flexible language independent Sentence Completion module using Language Model based on Arpa file.
- **dl-drawer** | *Python*
  A python-based drawing tool to automate drawing for various deep learning architectures.
- **Bangla Sentiment Analysis** | *Python*
  An undergraduate project for the Math for CS course to identify sentiments from Bangla sentences.
- **Bangla Pos Tagger** | *Python*
  An undergraduate NLP Project to tag parts of speech in Bangla sentences.
- **Bangladesh at a glance** | *HTML, Vanilla JS*
  A visual tool to understand the socio-economic condition of Bangladesh based on SGD indicators.

Publications

1. **Rizvee, Redwan Ahmed**, Mohammad Fahim Arefin, and Chowdhury Farhan Ahmed. "Tree-miner: mining sequential patterns from sp-tree." Pacific-Asia conference on knowledge discovery and data mining. Springer, Cham, 2020.

2. Faisal Haque Bappy, Saklain Zaman, Tariqul Islam, **Redwan Ahmed Rizvee**, Joon S. Park, Kamrul Hasan, "Towards Immutability: A Secure and Efficient Auditing Framework for Cloud Supporting Data Integrity and File Version Control", 2023 IEEE Global Communications Conference: Selected Areas in Communications: Cloud/edge Computing, Networking, and Data Storage (Soon to be online)

3. **Rizvee, Redwan Ahmed**, et al. "LeafNet: A proficient convolutional neural network for detecting seven prominent mango leaf diseases." Journal of Agriculture and Food Research (2023): 100787.

4. Arefin, Md Fahim, Chowdhury Farhan Ahmed, **Redwan Ahmed Rizvee**, Carson K. Leung, and Longbing Cao. "Mining Contextual Item Similarity without Concept Hierarchy." In 2022 16th International Conference on Ubiquitous Information Management and Communication (IMCOM), pp. 1-8. IEEE, 2022.

5. **Rizvee, Redwan Ahmed**, Md Fahim Arefin, and Marzan Binte Abid. "A Robust Objective Focused Algorithm to Detect Source Code Plagiarism." 2022 IEEE 13th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON). IEEE, 2022.

6. **Rizvee, Redwan Ahmed**, et al. "Sliding window based weighted periodic pattern mining over time series data." (2019).

7. **Rizvee, Redwan Ahmed**, et al. "An Automated System to Calculate Marks from Answer Scripts." 2022 IEEE 13th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON). IEEE, 2022.

8. **Rizvee, Redwan Ahmed**, and Moinul Zaber. "How Newspapers Portrayed COVID-19." International Conference on Computer Science Protecting Human Society Against Epidemics. Springer, Cham, 2021.

9. **Rizvee, Redwan Ahmed**, et al. "Arobust three-stage hybrid framework for english to bangla transliteration." Int. J. Nat. Lang. Comput 11.1 (2022).

10. Wahed, Muntasir, **Redwan Ahmed Rizvee**, Riddho Ridwanul Haque, Amin Masud Ali, Moinul Zaber, and Amin Ahsan Ali. "What Can Nighttime Lights Tell Us about Bangladesh?." In 2020 IEEE Region 10 Symposium (TENSYMP), pp. 1612-1615. IEEE, 2020.

11. Dewan, Umama, Chowdhury Farhan Ahmed, Carson K. Leung, **Redwan Ahmed Rizvee**, Deyu Deng, and Joglas Souza. "An efficient approach for mining weighted frequent patterns with dynamic weights." (2019).

Ongoing Research Works

1. **Rizvee, Redwan Ahmed**, Chowdhury Farhan Ahmed, Md. Fahim Arefin, Carson. K. Leung, "A New Tree-Based Approach to Mine Sequential Patterns", Expert Systems with Applications. Currently waiting for the verdict of our 1st major revision.

2. **Rizvee, Redwan Ahmed**, Chowdhury Farhan Ahmed, Carson. K. Leung, "A Tree-Based Framework to Mine Top-K Closed Sequential Patterns", ACM Transactions on Knowledge Discovery from Data. Currently waiting for the 1st verdict over the submitted manuscript.

3. **Rizvee, Redwan Ahmed**, Md Shahadat Hossain Shahin, Chowdhury Farhan Ahmed, Carson. K. Leung, "Mining Weighted Patterns from Time Series Databases Based on Sliding Window", Dhaka University Journal of Applied Science and Engineering. Currently waiting for the verdict of our 1st minor revision.

4. **Rizvee, Redwan Ahmed**, et. al, "Revival of the Lost Glory of Muslin through Identification of Phuti Karpas Plant with an Effective Approach by Using Convolution Neural Network", Journal of Food and Agriculture. Currently waiting for the 1st verdict over the submitted manuscript.

References

- **Dr. Chowdhury Farhan Ahmed** — Email: farhan@du.ac.bd
  Professor, Department of Computer Science and Engineering, University of Dhaka — *Contact No.: +880 1911-701447*
- **Dr. Moinul Islam Zaber** — Email: zaber@du.ac.bd
  Professor, Department of Computer Science and Engineering, University of Dhaka — *Contact No.: +880 1715-339773*
- **Dr. Md. Mosaddek Khan** — Email: mosaddek@du.ac.bd
  Associate Professor, Department of Computer Science and Engineering, University of Dhaka — *Contact No.: +880 1811-475201*