Pranta Sarker

Prospective Master of Research / HDR Applicant
Lecturer in Computer Science and Engineering
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RESEARCH PROFILE

Computer Science academic and researcher with teaching experience as a Lecturer at North East University Bangladesh and a publication record in data compression, Huffman coding, adjacent distance array, algorithm design, and text processing. Seeking Master of Research / MPhil / HDR supervision and RTP scholarship consideration in Australia, with a proposed research direction in blockchain-based trust management for e-commerce reputation systems and AI-assisted fake review detection.

PROPOSED HDR / MASTER OF RESEARCH DIRECTION

Proposed title: *Blockchain-Based Trust Management and AI-Assisted Fake Review Detection for E-Commerce Reputation Systems*

- **Research problem:** Centralized e-commerce platforms may suffer from manipulated ratings, fake or unreliable reviews, and opaque reputation scores, reducing consumer trust in online marketplaces.
- **Proposed contribution:** A transparent, tamper-resistant, and privacy-aware trust management framework that combines blockchain-based review/reputation records with AI/NLP-assisted fake or unreliable review detection.
- **Potential methods:** Systematic literature review, framework/prototype design, smart-contract architecture, NLP/machine-learning-based review classification, and evaluation using benchmark or public e-commerce review datasets.

EDUCATION

Master of Information Technology and Systems, majoring in Business Analytics, Victorian Institute of Technology, Sydney, Australia 2025 – Present

BSc (Engg.) in Computer Science and Engineering, North East University Bangladesh, Sylhet, Bangladesh 2014 – 2018
CGPA: 3.75/4.00
Thesis: *A Faster Decoding Technique for Huffman Codes Using Adjacent Distance Array*
Thesis supervisor: Dr. Ahsan Habib
Research area: lossless data compression, Huffman coding, adjacent distance array, decoding-speed improvement, Bengali/transliterated text processing.

Earlier education: Higher Secondary Certificate, Jalalabad Cantonment Public School and College, GPA 5.00/5.00 (2010-2012); Secondary School Certificate, Sylhet Govt. Pilot High School, GPA 5.00/5.00 (2005-2010).

RESEARCH PUBLICATIONS

Publication summary: 4 research publications in computer science, including journal articles and Springer proceedings/book chapter outputs.


Journal Article


Conference proceedings


Open Access


Scopus-indexed

Sarker, P., & Rahman, M. L. (2024). A Huffman-based short message service compression technique using adjacent distance array. *International Journal of Information and Communication Technology*, *25*(2), 118-136. https://doi.org/10.1504/IJICT.2024.140309

Sarker, P., & Rahman, M. L. (2022). Method of Adjacent Distance Array Outperforms Conventional Huffman Codes to Decode Bengali Transliterated Text Swiftly. *International Journal of Computing and Digital Systems*, *11*(1), 595–608. https://doi.org/10.12785/ijcds/110148

Sarker, P., & Rahman, M. L. (2021). Introduction to Adjacent Distance Array with Huffman Principle: A New Encoding and Decoding Technique for Transliteration Based Bengali Text Compression. *In Progress in Advanced Computing and Intelligent Engineering*, *AISC*, *1299*, 543–555. https://doi.org/10.1007/978-981-33-4299-6_45

Rahman, M. L., **Sarker, P.**, & Habib, A. (2020). A Faster Decoding Technique for Huffman Codes Using Adjacent Distance Array. *In Proceedings of International Joint Conference on Computational Intelligence. Algorithms for Intelligent Systems*, 309–316. https://doi.org/10.1007/978-981-15-3607-6_25

RESEARCH EXPERIENCE AND CAPABILITY

BSc thesis – *A Faster Decoding Technique for Huffman Codes Using Adjacent Distance Array*
Developed research capability in algorithm design, data structures, Huffman-based compression, decoding efficiency, and experimental comparison of compression/decompression performance.

- Built a foundation for independent research through thesis work that later supported journal and Springer proceedings publications.
- Research strengths: problem formulation, literature review, algorithmic design, technical writing, LaTeX typesetting, and publication preparation.
- Transferable fit for proposed MRes: secure information systems, trustworthy digital platforms, data-driven evaluation, and AI-assisted integrity analysis.

ACADEMIC AND TEACHING EXPERIENCE

Lecturer, Department of Computer Science and Engineering, North East University Bangladesh, Sylhet, Bangladesh 2018 – Present
Teaching experience in undergraduate computer science and engineering; currently on study leave for postgraduate study.

- Delivered academic teaching and student support within the Department of Computer Science and Engineering.
- Supported programming/problem-solving development, technical communication, and foundational computer science learning.

ACADEMIC SERVICE

TPC Reviewer, *International Journal of Computing and Digital Systems*, University of Bahrain Scientific Journals.
Reviewer / technical program committee service in computing and digital systems. 2022-Present

TECHNICAL SKILLS AND RESEARCH TOOLS

- **Programming languages:** C, C++, Java, PHP, Python, MATLAB
- **Research and writing tools:** LaTeX; academic writing; publication preparation; literature review
- **Research areas:** Blockchain-based trust management; e-commerce reputation systems; AI-assisted fake review detection; privacy and security; data compression; algorithm design; machine learning; software engineering.
- **Programming problem solving:** Solved 600+ programming problems across multiple online judges, developing strong algorithmic thinking, data-structure knowledge, and problem-solving skills.

RTP / MASTER OF RESEARCH APPLICATION STRENGTHS

- Strong academic record in Computer Science and Engineering with CGPA 3.75/4.00.
- Research outputs across journal articles and Springer proceedings/book chapters, demonstrating publication potential for HDR study.
- Teaching experience since 2018 and a clear proposed research direction aligned with cybersecurity, blockchain, trust management, applied AI, and information systems.

REFERENCES

Available upon request.