

S M RAFIUDDIN

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OBJECTIVE

Aiming to build a career in Research and Development with a focus on Machine Learning and solving complex challenges that bridge theoretical foundations with practical applications.

RESEARCH INTEREST

Machine Learning, Deep Learning, Natural Language Processing, Pattern Recognition

EDUCATION

Doctor of Philosophy (Ph.D.) | *Computer Science* August 2022 – July 2027
Oklahoma State University

Bachelor of Science (B.Sc.) | *Computer Science and Engineering* January 2012 – October 2016
Rajshahi University of Engineering and Technology CGPA: 3.53/4.00

TECHNICAL SKILLS

Programming Languages: C, C++, Java, Python.

Operating System: Linux.

Version Control and Development: Git.

Web Technologies: HTML, CSS, JavaScript, PHP, Django.

Cloud Technologies: Amazon AWS, Docker.

Database Technologies: Oracle, MySQL, PL/SQL.

Technical Writing: \LaTeX .

Editing and Design: Adobe Photoshop, Adobe Illustrator.

Library/Framework: NumPy, pandas, Matplotlib, NLTK, ScikitLearn, Tensorflow, PyTorch, Seaborn.

Simulator: Matlab, Octave, Multisim, CISCO Packet Tracer, Unity, Blender.

WORK EXPERIENCE

Graduate Teaching Assistant August 2022 – Present
Oklahoma State University Stillwater, Oklahoma, USA

- **Introduction to Computer Security (Fall 2022):** Facilitated learning for 50+ students through interactive discussions, enhancing their understanding of key security principles and practices.
- **Design and Implementation of Operating Systems I (Spring 2023, Spring 2024):** Led weekly sessions and provided one-on-one mentoring to students, significantly improving their practical skills in OS development.
- **Data Structures and Algorithm Analysis II (Fall 2023):** Designed and graded complex assignments and exams to assess and reinforce students' problem-solving skills in advanced algorithms.

Lecturer October 2018 – July 2022
University of Asia Pacific Dhaka, Bangladesh

- Conducted Computer Science classes and labs, focusing on interactive and applied learning techniques, which enhanced students' understanding and retention of complex concepts.
- Led the **RUET IUPC 2019** Competitive Programming team, providing intensive coaching and problem-solving strategies that improved the team's performance and ranking in national competitions.
- Actively participated in **IQAC workshops**, contributing to the development and implementation of **Outcome Based Education (OBE)** strategies that aligned with international academic standards and improved the curriculum's effectiveness.

PROJECTS

Deep Learning and GANs for Image Generation, Embedding, and Classification

November 2021

PyTorch

- Leveraged Generative Adversarial Networks (GANs) to generate high-quality, realistic images and applied a spectrum of deep learning models for robust image classification, significantly enhancing content diversity and recognition accuracy.
- Advanced image analysis by implementing embedding techniques for clustering similar images, utilizing OpenSeadragon for scalable visualization, thus streamlining the retrieval and examination process.

Text-based Question Answering System

October 2016

Python, Scikit-Learn

- Developed a comprehensive text processing system using Parsing, Parts of Speech Tagging, and Semantic Analysis, enabling advanced input text analysis for categorization, tagging, and information extraction.
- Enhanced electronic text manipulation and understanding across academic research and customer service sectors, featuring a unique sentence-matching capability for precise answer derivation.

PUBLICATIONS

(MOST RECENT FIRST)

- **Rafiuddin, S. M.**, Rakib, M., Kamal, S., & Bagavathi, A. (2024, February). [Exploiting Adaptive Contextual Masking for Aspect-Based Sentiment Analysis](#). In *Pacific-Asia Conference on Knowledge Discovery and Data Mining* (pp. 147-159). Singapore: Springer Nature Singapore.
- **Rafiuddin, S. M.** **Rafiuddin, S. M.** (2022, March). [High Cursive Complex Character Recognition using GAN External Classifier](#). In *Proceedings of the 2nd International Conference on Computing Advancements* (pp. 466-472).
- Karim, M. A., **Rafiuddin, S. M.**, Islam Razin, M. J., & Alam, T. (2022, March). [Isolated Bangla Handwritten Character Classification using Transfer Learning](#). In *Proceedings of the 2nd International Conference on Computing Advancements* (pp. 11-17).
- Razin, J. I., Abdul Karim, M., Mridha, M. F., **Rafiuddin Rifat, S. M.**, & Alam, T. (2021). [A Long Short-Term Memory \(LSTM\) Model for Business Sentiment Analysis Based on Recurrent Neural Network](#). In *Sustainable Communication Networks and Application* (pp. 1-15). Springer, Singapore.
- **Rafiuddin, S. M.** (2019, December). [Estimation of Phylogenetic Tree using Gene Sequencing Data](#). In *2019 4th International Conference on Electrical Information and Communication Technology (EICT)* (pp. 1-5). IEEE.
- **Rafiuddin, S. M.** (2017, December). [Ranking of Bangla word graph using graph based ranking algorithms](#). In *2017 3rd International Conference on Electrical Information and Communication Technology (EICT)* (pp. 1-5). IEEE.
- Mishu, S. Z., & **Rafiuddin, S. M.** (2016, December). [Performance analysis of supervised machine learning algorithms for text classification](#). In *2016 19th International Conference on Computer and Information Technology (ICCIT)* (pp. 409-413). IEEE.

VOLUNTARY SERVICES

- Volunteered at the *National High School Programming Contest (NHSPC)*, Rajshahi, contributing to the organization and smooth execution of the event, fostering interest in programming among high school students.
- Volunteered at the *Divisional Mathematical Olympiad*, Faridpur, assisting in the orchestration of the competition and supporting the promotion of mathematical education and problem-solving skills among participants.

REFERENCE

Dr. Arunkumar Bagavathi

Assistant Professor

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Oklahoma State University

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