







# RUMMAN AHMED PRODHAN

 Rumman Ahmed Prodhan  rumman-ahmed-prodhan  rumman153

 rumman153@gmail.com  (+880) 1521429847  85, Middle Paikapra, Mirpur-1, Dhaka-1216

*PhD Applicant in Computer Science*

## OBJECTIVE

Motivated researcher with expertise in artificial intelligence, machine learning, and data science, seeking to pursue a PhD in Computer Science focused on innovative applications of AI and ML in healthcare and other real-world domains.

## WORK EXPERIENCE

**Northern University Bangladesh** *Sep 2022 - Present*

*Lecturer, CSE (Full time):*

Conducting BSc courses, including Database Management System, Artificial Intelligence and Expert System, Computer Architecture, and Software Development. Actively supervising undergraduate theses and projects focused on machine learning and deep learning.

**Neuro-Analytics Lab, NJIT, USA** *Jul 2022 - Present*

*Volunteer Assistant Researcher (Remote):* Submitted a journal to MDPI Sensors. Lab Website.

**Marketing Doorway, Dhaka, Bangladesh** *Jul 2017 - Sep 2022*

*SEO Team Lead (Part-time, Remote):* Managed a team of SEO associates.

**Bondstein Technologies Limited, Dhaka, Bangladesh** *Jan 2022 - Jun 2022*

*Intern at Research & Development:* Developed a real-time conveyor belt fault detection system for British American Tobacco (BAT).

**Lead Technology, Dhaka, Bangladesh** *Jul 2016 - Jul 2017*

*SEO Specialist (Part-time, Remote)*

## EDUCATION

**University of Asia Pacific, Dhaka, Bangladesh** *Apr 2018 - Jun 2022*

*BSc. in Computer Science & Engineering*

Cumulative CGPA: 3.79/4.00, CGPA of last 2 years: 3.96, CGPA of last semester: 4.00

**BCIC College, Dhaka, Bangladesh** *2014 - 2016*

*Higher Secondary Certificate*

GPA: 5.00/5.00

**Muhammadabad Islamia Alim Madrasah, Dhaka, Bangladesh** *2012 - 2014*

*Dakhil Examination Certificate*

GPA: 5.00/5.00

## PUBLICATIONS

- **Published Journal (03 Nov 2022):** Sumya Akter†, **Rumman Ahmed Prodhan**†, Tanmoy Sarkar Pias, David Eisenberg, Jorge Fresneda Fernandez. "M1M2: Deep Learning-Based Real-Time Emotion Recognition from Neural Activity." MDPI Sensors. doi:10.3390/s22218467. †These authors contributed equally.
- **Published Paper (11 Jun 2023):** **Rumman Ahmed Prodhan**, Sumya Akter, Muhammad Bin Mujib, Md. Akhtaruzzaman Adnan, Tanmoy Sarkar Pias. "Emotion Recognition from Brain Wave using Multitask Machine Learning Leveraging Residual Connections." MIET 2022, Noakhali, Bangladesh. doi:10.1007/978-3-031-34622-4\_10.
- **Published Paper (01 Jan 2023):** Sumya Akter, **Rumman Ahmed Prodhan**, Muhammad Bin Mujib, Md. Akhtaruzzaman Adnan, Tanmoy Sarkar Pias. "Evaluating the Effectiveness of Classification Algorithms for EEG Sentiment Analysis." ICSADL 2022, Lalitpur, Nepal. doi:10.1007/978-981-19-5443-6\_17.
- **Published Paper (2024):** **Rumman Ahmed Prodhan**, Sumya Akter, Tanmoy Sarkar Pias, Md. Akhtaruzzaman Adnan. "Optimal EEG Electrode Set for Emotion Recognition From Brain Signals: An Empirical Quest." ABC 2022, London, UK. arXiv:2311.17204.

- **Undergraduate Thesis (01 Jun 2022):** "*Emotion Recognition from Facial Expression and Brain Signals*," Supervised by Md. Akhtaruzzaman Adnan, Co-Supervised by Tanmoy Sarkar Pias, University of Asia Pacific.

## LANGUAGE PROFICIENCY

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- **IELTS Academic:** Overall band score - 8; Listening - 8.5, Reading - 8.0, Writing - 7.0, Speaking - 7.5

## ONGOING RESEARCH

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- Pediatric teeth segmentation from dental radiographs (Transfer learning)
- Emotion recognition from EEG signals (Subject-independent)
- Review on emotion recognition from brain signals
- Bibliometric analysis on emotion recognition
- Real-time emotion and face recognition using CNN
- Fault detection model for conveyor belts (Lightweight)

## PROJECTS

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- Real-time emotion recognition and attendance system for classes (Raspberry Pi)
- Live face recognition from webcam using CNN: Github
- Conveyor belt fault detection system for BAT (Raspberry Pi)
- Bangladeshi travel blog using Django: Live & Demo
- Air Tickets Management (SQL): Github
- Employee Management (Java): Github
- 2D endless runner game using Unity: Github

## AWARDS AND ACHIEVEMENTS

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- **VC's Honor List:** Awarded by the University of Asia Pacific for outstanding academic performance in 4th year (2nd and 1st semesters), 3rd year (2nd and 1st semesters), and 2nd year (2nd semester).
- **Dean's Honor List:** Awarded by the University of Asia Pacific for outstanding academic performance in 2nd year (1st semester).

## RESEARCH INTERESTS

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Machine Learning, Deep Learning, Signal Processing, Computer Vision, Image Processing

## SKILLS

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**Programming:** Python, Java, C, C++, HTML, CSS, Assembly

**ML Tools:** Keras, Tensorflow, Matlab, OpenCV, Pytorch

**Networking:** Cisco Packet Tracer

**Robotics:** Arduino, Raspberry Pi, Jetson Nano

**Databases:** SQL, MySQL

**Frameworks:** Django, Bootstrap

**App Development:** Unity

**Operating Systems:** Linux

**Software Tools:** Latex, VOSviewer, Bibexcel, Microwind, Codeblocks, Pycharm, Prolog

## REFERENCES

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**Tanmoy Sarkar Pias**

Doctoral Candidate, Computer Science  
Virginia Tech, Blacksburg, VA, USA

✉tanmoysarkar@vt.edu

☎+1 (540) 449-2137

**Md. Akhtaruzzaman Adnan**

Assistant Professor, Department of CSE  
University of Asia Pacific, Dhaka, Bangladesh

✉adnan.cse@uap-bd.edu

☎+880 1711281379