

RESEARCH INTERESTS

Data Science, Computer Vision, NLP. Especially, the application of Data Science, ML concepts for social good.

EDUCATION

- **Shahjalal University of Science and Technology (SUST)** April, 2014 - November, 2018
BSc(Engg.) in Computer Science and Engineering
CGPA: **3.91/4.00** (Topper in class of 2013)

TEST SCORES

- GRE (Verbal: 165, Quant: 170, AWA: 4.0)
- TOEFL (Writing: 29, Listening: 30, Reading: 30, Speaking: 24)

EXPERIENCES

- **Lecturer, Department of CSE, SUST** July 2019 - Present
 - ◇ **Taught Courses:** Database Management Systems, Software Engineering and Design Patterns, Web Engineering, Operating Systems.
 - ◇ Served as a member of *Undergrad Final Year Thesis/Project Evaluation Committee*, Session 2019-20, 2020-21.
- **Research Associate, Natural Language Processing research groups, SUST** August 2019 - Present
 - ◇ Member of a panel that wrote a project proposal entitled "*A BiLSTM based Deep Learning Approach for Hate Speech Detection in Bangla Text and a Benchmark Dataset for Hate Speech in Bangla*". The proposed project won a research grant worth 2,30,000 BDT from SUST Research Centre (Project ID: AS/2020/1/26).
- **Software Engineer, Samsung Research and Development Institute, Bangladesh** September, 2018 - June, 2019
 - ◇ Robot simulation project. Controlling movements and various actions of a robot using Samsung Galaxy Tab S4. Also object detection and recognition tasks performed by the robot using *YOLOv3*.
 - ◇ Baby crying sound detection on Android devices using *Tensorflow Lite*.
 - ◇ Understood the codeflow of certain parts of the multimedia and V8 portion of *chromium-efl*.
 - ◇ Understood storage system for various cross platform cellular devices.
 - ◇ Sensor data collection from smart devices and their application in detecting gestures and biometric properties.

PUBLICATIONS

- Md. Enamul Hoque, Md. Shariful Islam, **Arnab Sen Sharma**, Rashedul Islam, and Mohammad Ruhul Amin. 2021. "*Challenges in Tracking the Risk of COVID-19 in Bangladesh: Evaluation of A Novel Method*". In Proceedings of August 15 (KDD Workshop on Data-driven Humanitarian Mapping, 27th ACM SIGKDD Conference). ACM, New York, NY, USA. *Kindly check out my 5-minute talk on this paper prepared for this conference.*
- **Sharma, A. S.**, Roy, T., Rifat, S. A. & Mridul, M. A. (2021). "*Presenting a Larger Up-to-Date Movie Dataset and Investigating the Effects of Pre-Released Attributes on Gross Revenue*." Journal of Computer Science, 17(10), 870-888. DOI: 10.3844/jcssp.2021.870.888.
- **A. S. Sharma**, M. A. Mridul and M. S. Islam, "*Automatic Detection of Satire in Bangla Documents: A CNN Approach Based on Hybrid Feature Extraction Model*", 2019 International Conference on Bangla Speech and Language Processing (ICBSLP), Sylhet, Bangladesh, 2019, pp. 1-5, doi: 10.1109/ICBSLP47725.2019.201517. [IEEE Best Paper Award, awarded by ICBSLP, 2019]
- **A. Sen Sharma**, M. Ahmed Mridul, M. Jannat and M. Saiful Islam, "*A Deep CNN Model for Student Learning Pedagogy Detection Data Collection Using OCR*", 2018 International Conference on Bangla Speech and Language Processing (ICBSLP), Sylhet, 2018, pp. 1-6, doi: 10.1109/ICBSLP.2018.8554701.

ONGOING RESEARCH WORKS AND COLLABORATIONS

- *Calculating the attention score of an online class based on students' gaze tracking*, under supervision of Dr. Mohammad Ruhul Amin, Assistant Professor, Fordham University. [[github](#)]
- COVID-19 Research
 - ◇ *Risk Assessment and Forecasting*, in collaboration with Dr Md Enamul Hoque, Associate Professor, SUST; Dr. Md. Shariful Islam, Assistant Professor, NSU; and Dr. Mohammad Ruhul Amin, Assistant Professor, Fordham University.
 - ◇ *Tracking COVID-19 cases in Bangladesh via Participatory Syndromic Surveillance System*, project under supervision of Dr. Mohammad Ruhul Amin, Assistant Professor, Fordham University.

HONORS AND AWARDS

- Secured 3rd place in **SAMSUNG Research ROBOT HACKATHON-2018** as part of the team **SRBD_Hyperbola**.
- **Notable Performances on Onsite Programming Contests**
 - ◊ ACM ICPC ASIA Regional, Dhaka Site 2017, Rank : 21, (SUST_PeakSeeker)
 - ◊ ACM ICPC ASIA Regional, Dhaka Site 2016, Rank : 11, (SUST_DeapThunder)
 - ◊ IUBAT IUPC, Rank : 4 , (SUST_DeapThunder)
 - ◊ BSCCL National Programming Contest (Hackathon) at UITS, Rank : 6, (SUST_1)
 - ◊ LU Inter University Programming Contest 2016, Rank : 4, (SUST_BlackJAM)

PROJECTS

- **COVID-19 in Bangladesh** [github] - An interactive website built with *ReactJS* and *Flask* to showcase our work on tracking and forecasting COVID-19 situation in Bangladesh. The site is live at erdos.dsm.fordham.edu:3000. *Kindly check the site from a desktop/laptop/tab. The site is not optimized for smartphone screens.*
- **Sentece Similarity Measurement for Bangla** [github] - Experimented with Siamese Neural Network architecture to calculate a similarity score between 2 sentence written in Bangla.
- **Algorithm Simulator** [github] - A desktop application aiming to help newbie competitive programmers to get a basic understanding of vastly used basic algorithms, data structures and different kinds of sorting techniques.
- **DareIt?!** [github] - An arcade game for android platform.
- **Travel Santa** [github] - A web application aiming to help tourists to find hotels and restaurants near tourist spots.
- **Shurodhwani** [github] - An online audio sharing and listening platform.
- **EduHelper** [github] - A web application aiming to help teachers in making and sharing tutorials.
- Web Scrappers built for different purposes - [IMDb](#), [BoxOfficeMojo](#), [CodeForces](#), [AtCoder](#), [VJudge](#), [Scrappers built for preparing dataset for Bengali sarcasm detection from text.](#)
- Other projects include - [BoxOffice Revenue Prediction](#), [Biometrics using Smartphone Sensors](#), [GRE Flashcard](#), [Bangla Handwritten Digit Classification for a Kaggle Contest](#).

TECHNICAL SKILLS

- **Programming Languages** : Python, C++, Java
- **Frameworks/Tools** : Tensorflow, PyTorch
- **Database**: SQL, MongoDB
- **Game Engine**: Unity2D
- **Web Technologies**: ReactJS, Flask, Django, Laravel-5

SERVICES AND VOLUNTEER WORKS

- Conducted workshops on basic Data-Science and Machine Learning to train up undergrad students of CSE department, SUST.
- Advising undergrad students who are conducting research in Data Science and Machine Learning related domains.
- Competitive Programming Trainer for undergraduate students of CSE Department, SUST and CSE Department, Sylhet International University.
- Set competitive programming problems and wrote alternate solutions for several programming contests including NEUB Junior Inter University Programming Contest 2017, Varendra University Inter University programming contest 2017 and SUST Intra University Programming Contest, 2017.
- Serving as a core member of the Consultant Team on the project *Development of Health Service Management System for Sylhet M A G Osmani Medical College Hospital*. Responsibilities include monitoring the requirement collection and architecture design of the project.
- Served as core member of the *Technical Sub-committee*, SUST Admission 2021.

REFERENCES

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