

Shakib Sadat Shanto

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🔗 <https://www.researchgate.net/profile/Shakib-Shanto> 🔗 <https://shakib-sadat.github.io>

EDUCATION

Bachelor of Science (BSc), Computer Science and Engineering Jan 2020 – Jan 2024
American International University-Bangladesh
Grade (CGPA): **3.85** out of **4.0**

PROFESSIONAL EXPERIENCE

Research Assistant Aug 2023 – Jan 2024
American International University-Bangladesh (AIUB)
Dhaka, Bangladesh

- Published **3** journal research articles on **Natural Language Processing (NLP)**.
- Published **2** journal research articles on **Educational Technology**.
- Conducted pioneering research applying **Large Language Models (LLM)** to low-resource Bangla language.
- Performed a study to evaluate the efficiency of a **Large Language Model (LLaMA)** in Bangla Sentiment Analysis task.
- Conducted novel studies on the implementation of cutting-edge **Generative AI** technologies into **Higher Education settings**.
- Researched on **Generative AI's** ability to promote critical thinking among **undergraduate students** using model like **Lee's thinking level** and **Bloom's Taxonomy**.

SKILLS

Languages Python, R, C#, Java, PHP, C++	Database System MySQL, Oracle	Frameworks Tensorflow, Pytorch, Langchain
Libraries Scikit-learn, Scikit-Ilm, PEFT, NLTK, BNLTK, Transformers, OpenCV, Numpy, Pandas, Matplotlib	Tools & Software Github, Visual Studio, Weka, Tableau	

RESEARCH AND PUBLICATIONS

Making Sense of Console Logs: A Framework for Generating Automated Explanations using LLM
NLDB 2024
(Under Review)

Advancement in Bangla Sentiment Analysis: A Comparative Study of Transformer Based and Transfer Learning Models for E-commerce Sentiment Classification
Journal of Information Systems Engineering and Business Intelligence (JISEBI)
DOI: <http://dx.doi.org/10.20473/jisebi.9.2.181-194> 🔗

Binary vs. Multiclass Sentiment Classification for Bangla E-commerce Product Reviews: A Comparative Analysis of Machine Learning Models
International Journal of Information Engineering and Electronic Business(IJIEEB)
DOI: <http://dx.doi.org/10.5815/ijieeb.2023.06.04> 🔗

Towards Interpretable Emotion Classification in Bangla: A Hybrid Deep Learning Approach with Explainable AI
3rd International Conference on Computing Advancements - ICCA 2024
(Under Review)

Explainable Hate Speech Detection: A Custom BiLSTM Model with LIME and SHAP for English Social Media Comments
Royal Society Open Science
(Under Review)

The Generative AI Landscape in Education: Mapping the Terrain of Opportunities, Challenges and Student Perception

IEEE Access

(Under Review)


CropTalk: A RAG Chatbot Powered by LLMs and Streamlit for Efficient Farming Guidance

3rd International Conference on Computing Advancements - ICCA 2024

(Under Review)

Mining User Opinions: A Balanced Bangla Sentiment Analysis Dataset for E-Commerce

Malaysian Journal of Science and Advanced Technology

DOI: <http://dx.doi.org/10.56532/mjsat.v3i4.200> 

PAIGE: A Generative AI-based Framework for Promoting Assignment Integrity in Higher Education

STEM Education

DOI: <https://doi.org/10.3934/steme.2023018> 

Performance Analysis of YOLO Architectures for Surgical Waste Detection in Post-COVID-19 Medical Waste Management

Malaysian Journal of Science and Advanced Technology

DOI: [10.56532/mjsat.v4i1.232](https://doi.org/10.56532/mjsat.v4i1.232) 


Smart Greenhouse Monitoring System Using Blynk IoT App

Journal of Engineering Research and Reports

DOI: [10.9734/JERR/2023/v25i2883](https://doi.org/10.9734/JERR/2023/v25i2883) 

Enriching the Learning process With Generative AI: A Proposed Framework to Cultivate Critical Thinking in Higher Education using ChatGPT

Journal of Propulsion Technology

DOI: <http://dx.doi.org/10.52783/tjjpt.v45.i01.4680> 

Unlocking Sentiment Analysis Potential for Low-Resource Bangla Language by Fine-Tuning LLaMA Model

Journal of Information Technology Management (JITM)

(Under Review)

Can ChatGPT Facilitate the Acquisition of Fundamental Programming Skills for Novices?

Research and Practice in Technology Enhanced Learning

(Under Review)

Generative AI for Promoting Deeper Thinking Levels in Higher Education: An Analysis Using Lee's Model of Thinking Levels

Research and Practice in Technology Enhanced Learning

(Under Review)

Acoustic Analysis of Speech for Gender and Age Classification Using CNN and Machine Learning Techniques

3rd International Conference on Computing Advancements - ICCA 2024

(Under Review)


PROJECTS

PDF Chatbot using LLM

<https://github.com/shakib-sadat/LLM-Chatbot> 


- Developed a **chatbot** that can converse with pdfs, using **langchain** as memory retrieval and **ADA-002 (OpenAI)** model at it's core.

Mining Student Data to Predict Result

<https://github.com/shakib-sadat/Mining-Student-Data-to-Predict-Result> 


- Conducted a **performance** analysis using **conventional ML models** to predict the **academic performance** of students using **student data**.

Machine Learning Classification Web-App

<https://github.com/shakib-sadat/ML-Web-App> 

- Developed a conventional **ML classification web app** and hosted on **Streamlit** where performance of algorithms such as **Naive Bayes**, **KNN**, **SVM**, **Kernel SVM** can be measured on different **hyperparameter** settings and can also be visualized using various **Scikit-learn** datasets.

Heart Failure Prediction in R

<https://github.com/shakib-sadat/Intro-to-Data-Science/tree/main/Final%20Project> 

- Developed a **heart failure prediction** model using **KNN** in **R** language to predict heart diseases with various features of patients. Dataset was collected from **Kaggle** and performance of the model was evaluated using **accuracy** and **confusion matrix**.

Face Mask Detection YOLOV8

https://github.com/shakib-sadat/Face_Mask_Detection_YOLOV8 

- As a part of **Computer Vision and Pattern Recognition** course developed a system using **YOLOV8 object detection** model on a dataset from **Kaggle** to detect **properly** and **incorrectly** worn face masks.

Game Store

https://github.com/shakib-sadat/WT_Spring2022/tree/main/hexa 

- Followed **MVC** pattern while making webpages for game-sellers as part of a game store website.

Bus Rapid Transit Management

<https://github.com/shakib-sadat/BusRapidTransitManagement> 

- Created a **bus transit management system** using **C#** with various necessary functionalities for three different users (Customer, Staff, Manager).
- Included distinctive features for each users such as Ticket Booking for **Customers**; Monitoring for **Staffs**; Budget Management for **Managers**.

AWARDS & ACHIEVEMENTS

The Prestigious Dean's Honor List

- Awarded dean's honor list in 4 semesters for successfully achieving and keeping up a grade point average (CGPA) of **3.85** out of **4.0** among top **8%** at the American International University-Bangladesh.