MD Saib Hossain

+880 1769-918015 | saibhossain5@gmail.com |
in/saib-hossain-182834229 | https://github.com/Saibhossain

Profile

Enthusiastic and research–driven computer science graduate with first–author publications in computer vision, NLP, and ML. Skilled in developing and evaluating deep learning models, with expertise in biomedical data analysis, graph neural networks, and multi–modal data fusion. Strong scientific writing ability demonstrated through award–winning abstracts and ongoing manuscripts. Motivated to contribute to cutting–edge oncology research in radiomics and deep learning.

EDUCATION

United International University, DHAKA — *BSCSE*
February 2022 - Current (4th year)

CGPA – **3.39** (running)

Online Course

IBM AI Engineering – Link

Data Science
Fundamentals with
Python and SQL   –Link

Research Experience

1. **First Author**, *BanglaSign-Tutor: An Interactive Bangla Sign Language Learning System via Finger-Guided Feedback (manuscript in progress)* — Under the supervision of Mr. Fahim Hafiz and Mr. Md. Shafqat Talukder sir, developing a software tools to teach Bangla Sign Language using **machine learning**, **MediaPipe-based hand tracking**, **computer vision**, and **natural language processing**. Integrates real-time finger-position analysis with adaptive feedback to improve sign production accuracy.

2. **First Author**, *Land Coverage Classification through Satellite Images using Machine Learning Algorithms (manuscript in progress)* — Designed and evaluated multiple ML models (**Random Forest, CART, XGBoost, KNN, Naïve Bayes**) for automated land cover classification from satellite imagery. Achieved comparative performance analysis across models for accuracy, scalability, and computational efficiency in remote sensing applications.

Achievements & Awards

1st Runner-up, *Deep Learning in Computational and Spatial Biology Kaggle Competition* — Recognized for developing a **multi-semantic graph learning framework** leveraging spatial, transcriptomic, and morphological features for unsupervised cell-type discovery in spatial transcriptomics data.

Best Abstract Award, same competition — Honored for the abstract *"Multi-Semantic Graph Learning for Unsupervised Discovery of Spatial Cell Types in Transcriptomic Tissues"*, highlighting innovations in multi-branch GNN architectures and attention-based feature fusion for biologically interpretable clustering.

Technical Skills

Programming & Tools: Python, NumPy, Pandas,

Additional Information

Strong English writing skills (Best Abstract Award

scikit-learn, PyTorch, TensorFlow, OpenCV, MediaPipe

recipient)

Machine Learning & AI: Graph Neural Networks, CNNs, NLP, supervised & unsupervised learning, model evaluation

Experience in image processing, computer vision, and radiomics-related techniques

Domain Expertise: Computer vision, biomedical imaging, spatial transcriptomics, remote sensing analysis

Highly motivated to contribute to deep learning research in biomedical applications

Other: Data preprocessing, visualization, scientific writing, research presentation

Projects

Bangla Sign Language Translator

Built a vision-based system using MediaPipe and PyTorch that detects hand signs to predict Bangla alphabets and words. *Technologies:- PyTorch, MediaPipe, Streamlit, gTTS, ESP32, Raspberry Pi*
VISIT:-https://github.com/Saibhossain/bangla-sign-language-assistant.git

LangChain-Powered PDF QA Tool - Built a research document question-answering system using LangChain, OpenAI embeddings, and FAISS. *Technologies:- LangChain, OpenAI, FAISS, FastAPI, Streamlit.* VISIT:-https://github.com/Saibhossain/langchain-vector-qa.git

DeepLearning-with-PyTorch —Implemented CNNs and optimization techniques for image classification on MNIST and FashionMNIST. *Technologies-: PyTorch, Google Colab, Python*
VISIT:-https://github.com/Saibhossain/DeepLearning-with-PyTorch.git

AI-Powered Study Assistant Chatbot (GPT-2, FastAPI, JS) -Built an English chatbot using GPT-2 with FastAPI backend and JavaScript frontend for educational help. *Technologies: GPT-2, FastAPI, Python, JavaScript, HTML/CSS.* VISIT:- https://github.com/Saibhossain/AI_ChatBotUsingGPT-2.git

References

Mr. Fahim Hafiz
Lecturer, Dept. of CSE,
ROOM: 636 PABX: 3113
+8801618631299
Email: fahimhafiz@cse.uiu.ac.bd

Mr. Md. Shafqat Talukder
Lecturer, Dept. of CSE,
+8801926749123
Email: shafqat@cse.uiu.ac.bd