Bibek Howlader

ID: 8272853782

Date of birth: 08/10/2003

Place of birth: Patuakhali, Bangladesh

Nationality: Bangladeshi

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CONTACT

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ABOUT ME

Dedicated and adaptable university student pursuing a degree in Computer Science at AIUB. Passionate about problem-solving, technology, and learning new skills. Highly motivated, detail-oriented, and eager to contribute in a dynamic work environment. Looking for a part-time job to gain hands-on experience while balancing academic responsibilities.

EDUCATION AND TRAINING

12/09/2023 – CURRENT Dhaka, Bangladesh

Student American International University-Bangladesh

Website https://www.aiub.edu

LANGUAGE SKILLS

MOTHER TONGUE(S): Bengali

OTHER LANGUAGE(S): English | Hindi

COMMUNICATION AND INTERPERSONAL SKILLS

Computer Science Student | Aspiring AI Researcher

Motivated and detail-oriented Computer Science student at AIUB, with a strong foundation in programming, AI, and healthcare applications of technology. Passionate about problem-solving, research, and leveraging technology to create meaningful solutions. Quick learner with excellent communication and teamwork skills, eager to gain hands-on experience through a part-time role. Adaptable to fast-paced environments and committed to delivering quality work while balancing academic responsibilities.

SKILLS

AI & Machine Learning | Python | C | C++ | Java (computer programming) | Git | FrontEnd: HTML, CSS, JavaScript | Microsoft Powerpoint | Microsoft Word | Microsoft Excel

HOBBIES AND INTERESTS

AI and Machine Learning

Passion for exploring new technologies and applications in artificial intelligence and healthcare.

Tech & Programming

Enjoy coding and solving complex problems in programming languages like Python and C++.

Reading & Research

Interested in staying updated with the latest trends in AI and healthcare innovation.

Traveling & Cultural Exploration

Keen to learn about different cultures and expand personal horizons.

PROJECTS

Bioinformatics Pipeline for Analyzing hMPV-Human Protein Interactions

I developed a Python-based bioinformatics pipeline to study protein-protein interactions between human metapneumovirus (hMPV) and human host proteins. The pipeline automated the retrieval of hMPV protein sequences from UniProt, predicted interactions with human proteins using the STRING database, and visualized interaction networks with NetworkX to identify key hubs. Functional annotations, including Gene Ontology terms and molecular functions, were extracted from UniProt and organized into XML files. This

project demonstrates my expertise in bioinformatics, API integration, and network analysis, offering insights into hMPV infection mechanisms through data-driven analysis and visualization.

EEG Data Classification for Brain-Computer Interaction (BCI)

Developed a deep learning system to detect P300 brainwave responses in EEG data. Implemented signal preprocessing with bandpass filtering and wavelet transforms to clean and extract features from raw signals. Designed a hybrid CNN-Transformer model combining convolutional layers for local pattern recognition and attention mechanisms for global context. Optimized hyperparameters using Bayesian search, achieving **98.81%** validation accuracy. Incorporated class balancing and data augmentation to handle imbalanced datasets. The compact (<5MB) model enables real-time processing, suitable for brain-computer interfaces and cognitive monitoring. Built with TensorFlow/Keras, SciPy, and PyWavelets, demonstrating expertise in biomedical signal processing and neural network design for time-series classification.

Portfolio Website development

Front-End Development | *Responsive Design* | *Modern UI/UX*
Developed a dynamic personal portfolio website to showcase professional achievements, research work, and creative projects. Built with a mobile-first approach, the site features a sleek, modern interface with interactive elements and smooth animations, demonstrating expertise in front-end development and user-centric design.

Link https://manoj7477.github.io

AI in Precision Drug Design - Book Chapter

My book chapter, *"AI in Precision Drug Design,"* delves into the transformative role of artificial intelligence in modern drug discovery. It highlights how machine learning algorithms and data-driven approaches can accelerate the identification of potential drug candidates, reduce development costs, and improve the accuracy of targeting specific diseases. The chapter also explores real-world applications and future prospects of AI in creating more personalized and effective treatments. This contribution reflects my ongoing research interests at the intersection of artificial intelligence and healthcare innovation.