








MD AKRAMUL HOSSAIN

Biomedical Engineer

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EXPERIENCE

Freelancer

📅 June 2019 – Present 📍 Remote

- Derived insights from genomics, proteomics, transcriptomics, and multiomics data
- Leveraged AI to design and implement innovative data-driven solutions

PROJECTS

1. Identification of Biomarkers in Pancreatic Ductal Adenocarcinoma through Integrated Analysis of Gene Expression and Pathway Enrichment

📅 May 2024 – January 2025

Conducted differential gene expression analysis on four GSE datasets, utilizing R, Python, DAVID, STRING, GEPIA2, and additional bioinformatics databases to identify potential biomarkers for pancreatic cancer.

2. Development of a Novel Hybrid Graph Convolutional Network and Long Short-Term Memory Architecture for Genomic Variant Pathogenicity

📅 September 2024 – December 2024

Designed and implemented a hybrid deep learning model using Graph Convolutional Networks (GCN) and Long Short-Term Memory (LSTM) networks for genomic variant pathogenicity classification, achieving 94% accuracy. Utilized PyTorch for model development.

3. Predicting Protein Folding and Misfolding Pathways: Machine Learning and Proteomics Approaches for Neurodegenerative Disease

📅 December 2024 – January 2025

Applied machine learning techniques to predict protein folding and misfolding pathways, focusing on neurodegenerative disease mechanisms. Achieved 91% accuracy in model performance.

4. Project Playground

A personal repository showcasing coding experiments, including tools and techniques.

5. BioHub

A collaborative repository for reusable bioinformatics workflows and tools.

AWARDS & ACHIEVEMENTS

- Guest Speaker at "II INTERNATIONAL CONGRESS OF SCIENTIFIC RESEARCH AND INNOVATION" held by National University of Moquegua in November 2021
- Certificate of Achievement at "Bioinformatics Contest 2021" is supported by JetBrains, Genotek, Yandex, and Serokell in July 2021
- 2nd Runners Up in Matlab Mania at Meghna Petroleum Ltd. Presents EEE Day 2019 held at KUET

EDUCATION

BSc in Biomedical Engineering
Khulna University of Engineering & Technology

📅 2017 - 2022

SKILLS

- **Programming Languages:** Python, Bash, R
- **Data Structures and Algorithms**
- **Object Oriented Programming**
- **Statistics and Mathematics:** Linear Algebra, Calculus, Probability & Statistics
- **Version Control:** Git, GitHub
- **Testing and Debugging:** pytest
- **Artificial Intelligence:** Machine Learning, Deep Learning, Tensorflow, Pytorch
- **Exploratory Data Analysis:** Matplotlib, Pandas, Seaborn, R
- **Knowledgeable in:** Docker, Django, FastAPI
- **Operating Systems:** Linux, Windows

CHALLENGES

HackerRank (280) | Rosalind (64) ||
Fiverr (187) | LeetCode (14)

COURSEWORK

- **Cisco:** Python Essentials 1 & 2, NDG Linux Essentials
- **Coursera:** Object-Oriented Python: Inheritance and Encapsulation, Deep Learning Specialization, DeepLearning.AI TensorFlow Developer Specialization, Natural Language Processing in TensorFlow, AI for Medical Diagnosis

INTERESTS

Bioinformatics | Artificial Intelligence | Cancer Genomics