MD JAHIRUL ISLAM NAHID

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Profile

Aspiring Data Scientist/ Machine Learning Engineer with a Passion for Web Development. Equipped with a strong foundation in Python, MySQL, HTML, CSS, PHP, Machine Learning, and Computer Vision & Pattern Recognition (CVPR), along with a keen interest in **C#** and ASP.NET for developing efficient and modern web applications. Experienced in deep learning, computer vision, predictive modeling, and data visualization, with hands-on work on several ML and computer vision projects. Recently submitted a research paper to the *49th World Conference on Applied Science, Engineering & Technology (WCASET)*, showcasing strong research and problem-solving skills. Actively seeking an internship that blends my expertise in Data Science and Machine Learning with my enthusiasm for web development to create innovative, data-driven solutions.

Education

American International University-Bangladesh (AIUB) 2022 – 2026
B.Sc. in Computer Science and Engineering CGPA: 3.89/4.00
Birshrestha Noor Mohammad Public College (BNMPC) 2017 - 2019
Higher Secondary Certificate (HSC) GPA: 5.00/5.00
Narayanganj Ideal School 2014 – 2017
Secondary School Certificate (SSC) GPA: 5.00/5.00

Technical Skills

- **Programming:** Python, R, C++, C#, ASP.NET, SQL
- **Web Development:** HTML, CSS, JavaScript, PHP
- **ML/AI:** Machine Learning, Deep Learning, NLP, TensorFlow, pandas, NumPy, Keras.
- **Visualization:** Matplotlib, Seaborn
- **Databases:** MySQL, Oracle
- **Other:** Microsoft (Word, Excel, PowerPoint), Git, Linux.
- **Soft Skills:** Leadership, Teamwork, Communication, Adaptability.

Selected Projects

An Effective Old Age Home Care System 2024

- Designed a comprehensive software model for managing elder care in old age homes using draw.io, including modules for resident care, staff coordination, and health monitoring.
- Applied Scrum methodology for iterative planning and team collaboration, managing tasks on ClickUp.
- **Tech stack:** draw.io, ClickUp, TeamGantt, Scrum

Leaf Disease Detection using LACBA-Based Data Augmentation 2025

- Developed a Lesion-Aware Copy-Blending Augmentation (LACBA) pipeline to generate synthetic leaf images for improving plant disease classification accuracy.
- Processed an eight-class subset of the PlantVillage dataset**,** applying steps including leaf masking, lesion detection, context-preserving cropping, tone matching, blending, and visibility checks.
- **Tech stack:** Python, TensorFlow/Keras, EfficientNetV2-S, OpenCV, NumPy, Pandas

Comprehensive analysis of Lung Cancer Detection using Hybrid TVAE+SMOTE Approach 2025

- Developed a hybrid machine learning framework combining TVAE-generated synthetic data and SMOTE balancing to improve lung cancer prediction accuracy.
- Implemented a StackingHybrid model (RF + ANN + SVM + KNN + LR) and conducted 10-fold cross-validation to evaluate performance.
- **Tech Stack:** Python, Scikit-Learn, Pandas, NumPy, TensorFlow/Keras

Cardiovascular Disease Prediction using Machine Learning 2025

- Developed a machine learning model to predict heart failure using genetic, lifestyle, and clinical data, aiming for early detection and improved patient outcomes.
- Implemented and compared seven classification algorithms: Logistic Regression, Decision Tree, SVM, Random Forest, Naive Bayes, K-Nearest Neighbors, and XGBoost.
- **Tech stack:** Python, Scikit-Learn, Pandas, NumPy, Matplotlib

Car selling Management system (ASP.NET + C#) 2024

• Developed a full-stack web application for online car selling and buying, enabling users to browse cars by category, view detailed specifications, and purchase vehicle parts.

- Designed and implemented admin and customer dashboards to manage listings, transactions, and user interactions efficiently
- **Tech stack:** ASP.NET, C#, SQL Server.

Web Scraping and Topic Modeling of Fox News Articles: A Comprehensive Analysis of News Categories Using Latent Dirichlet Allocation 2025

• Scraped 500+ BBC News articles (US, Politics, World, Entertainment, Sports) and cleaned text (tokenization, stopword removal, lemmatization).

- Performed topic modeling (LDA) to uncover dominant themes across categories and summarize trends in news coverage.
- **Tech Stack:** R (rvest, dplyr, ggplot2), LDA, SHAP, Python (sklearn, numpy).

Web Scraping for Data Science Analysis 2025

• Collected data from multiple e-commerce websites to analyze customer behavior, product trends, and market performance.

- Processed and cleaned data using Python, enabling detailed statistical analysis with Pearson Correlation, ANOVA, and Chi-Squared tests.
- **Tech stack:** Python, Pandas, NumPy, Matplotlib.

Publications

- **Comprehensive Analysis of Lung Cancer Identification Using Machine Learning: Hybrid TVAE+SMOTE Approach** — submitted at *49th World Conference on Applied Science, Engineering & Technology (WCASET)*, *Bangkok, Thailand*
  - Developed a hybrid machine learning framework combining TVAE-generated synthetic data and SMOTE balancing to enhance lung cancer prediction accuracy
  - Implemented multiple classifiers, including KNN, Logistic Regression, Random Forest, XGBoost, LightGBM, AdaBoost, SVM, GBM, J48, ANN, Decision Tree, and Naive Bayes.
  - Built a StackingHybrid model (RF + ANN + SVM + KNN + LR) with 10-fold cross-validation**,** achieving accuracy 99.0%, precision 98.6%, recall 99.3%, and F1-score 99.0%**.**

Leadership & Volunteering

Research Assistant, American International University of Bangladesh, CS Special 2024 – 2025
Conducted research on deep learning and enhanced medical diagnosis with it.
Remote Intern – Junior developer, National Institute of Technology, India
Developed mobile technology and augmented features, AI-based development
General Member, AIUB Social Welfare Club (SHOMOY) 2022 – Present
Contributed to the Ideas Challenge 2024, the flood donation campaign, and the blood donation campaign.
Executive, BNMPC Science Club 2018-2020
Contributed to organizing the national science carnival fests and workshops.

References

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