

Md Nadim Hasan

Dhaka, Bangladesh

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Objective

As a Computer Science and Engineering graduate with a major in Information Technology, I am passionate about research in machine learning and artificial intelligence. With experience in data science and software development, I aim to pursue advanced research and contribute to innovative AI solutions.

Education

Bachelor of Science (BSc) in Computer Science & Engineering	2023
<i>American International University - Bangladesh (AIUB)</i>	CGPA: 3.69/4.00
Higher Secondary Certificate (HSC) in Science	2019
<i>Dinajpur Education Board, Bangladesh</i>	GPA: 5.00/5.00
Secondary School Certificate (SSC) in Science	2017
<i>Dinajpur Education Board, Bangladesh</i>	GPA: 5.00/5.00

Language Proficiency

- IELTS: Overall Band Score 6.5 (Listening: 8.0, Writing: 6.5, Speaking: 6.0, Reading: 6.0)

Research Interests/Areas

Machine Learning, Natural Language Processing, Artificial Intelligence, Computer Vision, Human-Computer Interaction

Research Experience

- **Prediction of Post-COVID Complications using Machine Learning Models** 2023
Conducted a thesis project to predict post-COVID complications using data from over 250 individuals.
 - Preprocessed data to address missing values and ensure feature selection.
 - Achieved **99% accuracy** using optimized machine learning models, including Random Forest.
 - Highlighted potential healthcare applications through detailed analysis and reporting.

Publications

Conference Papers:

- **M. N. Hasan, S. M. I. Tamim, M. T. I. Tanzid, T. Ahmed.** Predicting Post-COVID Complications of Bangladeshi People Using Machine Learning: Insights, Models, and Future Directions. *Proceedings of the 6th IEOM Bangladesh Conference*, Dhaka, Bangladesh **2023**
- **S. M. I. Tamim, M. N. Hasan, M. T. I. Tanzid, T. Ahmed.** Post-COVID-19 Complications Detection Using ML: A Review Paper. *Proceedings of the 6th IEOM Bangladesh Conference*, Dhaka, Bangladesh **2023**

Technical Skills

Programming: Python, R, C#, C++, Java, PHP, HTML, CSS, MATLAB

Frameworks: ASP.NET, Jupyter Notebook, Google Colab, Autocad

Databases: MySQL, Oracle

Tools: PyCharm, Visual Studio, Code::Blocks, OpenGLUTE

Projects

- **X-ray Image Classification for Pneumonia Detection:** Developed a machine learning system using CNN to classify chest X-ray images with 99% accuracy, outperforming models like KNN, SVM, and Random Forest.
- **Diabetes Detection:** Implemented a KNN model in R to predict diabetes with 74% accuracy, leveraging statistical analysis and feature engineering.
- **Housing in Mexico:** Analyzed a dataset of 21,000 properties to identify real estate price influencers using correlation analysis.
- **Apartment Sales in Buenos Aires:** Built a linear regression model to predict apartment prices, improving data quality and reducing overfitting.
- **Air Quality in Nairobi:** Developed an ARMA time-series model to predict particulate matter levels, optimized through hyperparameter tuning.
- **Earthquake Damage in Nepal:** Predicted building damage using logistic regression and decision tree models, addressing dataset biases.
- **Bankruptcy in Poland:** Built Random Forest and Gradient Boosting models to predict company bankruptcy, handling imbalanced data effectively.
- **Customer Segmentation in the US:** Applied K-means clustering and PCA for segmentation, creating an interactive dashboard using Plotly Dash.
- **A/B Testing at WorldQuant University:** Conducted chi-square tests and developed a custom ETL process for data applications.

- **Volatility Forecasting in India:** Designed a GARCH model for asset volatility prediction using API data and SQLite.
- **Post-Comment Features API:** Developed a RESTful API using ASP.NET 6 to manage user comments and interactions.
- **Super Shop Management System:** Created a management application using C#, Windows Forms, and MySQL.
- **Online Bank Management System:** Developed an online banking platform using PHP and MySQL, implementing secure database transactions.
- **Baby Care Application:** Designed a user-friendly prototype for a baby care tracking app as part of a software engineering course.
- **Hospital Management System Database:** Implemented database normalization and complex queries to optimize performance.
- **Flamingo Automobile Shop Management:** Designed a database system using PL/SQL triggers and procedural functions to enhance automation.

Work Experience

Software Developer Trainee (Intern)

Nerd Castle Software Development Company

- Developed an E-commerce website using .NET Core 7 and Angular.
- Designed POS system architecture with Windows Form Applications.
- Worked on CRM projects using .NET Core 6 MVC.

Certifications & Awards

Applied Data Science Lab Course, World Quant University	2024
2nd Place in COVID-related Research Presentation, Industrial Engineering and Operations Management (IEOM) Conference	2023
Academic Scholarship for Higher Secondary Certificate (HSC), Dinajpur Education Board, Bangladesh	2019
Academic Scholarship for Secondary School Certificate (SSC), Dinajpur Education Board, Bangladesh	2017
Academic Scholarship for Junior School Certificate (JSC), Dinajpur Education Board, Bangladesh	2014

Extracurricular Activities

- Led a 2D animation team, producing original animations using Adobe Animate.
- Participated in and helped organize inter-school debating competitions, serving as a key member of the school's debating club.
- General Member of Engineering Students of Bangladesh – AIUB Unit Face (ESAB), contributing to events and initiatives for academic and professional development.
- Participated in chess competitions, showcasing strategic thinking and analytical skills.

References

Tanvir Ahmed

Assistant Professor, Department of Computer Science, AIUB
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Prof. Dr. Md. Asraf Ali

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