ALISTAIR BISWAS

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Citizenship: Bangladesh

Research interests

Deep Learning, Machine Learning, Natural Language Processing, Computer Vision, Large Language Models, Image Processing.

Education

2021 – Present	**Ahsanullah University of Science and Technology** – Dhaka, Bangladesh
	BSc in Computer Science and Engineering
	Thesis: Algorithmic Treding with Machine Learning - A Case Study on Dhaka Stock Exchane.
	Supervisor: Prof. Dr Mohammad Shafiul Alam.
	CGPA: 3.77 out of 4.00(up to 4.1).
2017 – 2019	**Government Science College** – Dhaka, Bangladesh
	HSC (Science)
	GPA: 5.00 out of 5.00.
2012 – 2017	**Alfadanga A.Z Govt. Model High School** – Faridpur
	SSC (Science)
	GPA: 5.00 out of 5.00.

Honors and scholarships

2021, 2023, 2024	Half Free Tuition Fee Waiver based on Academic Result (Ahsanullah University of Science and Technology)
2011, 2014, 2017	Government Education Board Scholarship (Dhaka Board)

Research experience

December 2023 – Present	**Algorithmic Treading with Machine Learning - A Case Study on Dhaka Stock Exchange**
	Mentors: Professor Dr. Mohammad Shafiul Alam (Ahsanullah University of Science and Technology).
	Research on stock price prediction, divergence detection in the daily chart using custom algorithms and identifying its type. Build some treading strategy based on technical indicators and perform back-testing on historical data.

December 2023 – February 2024	**Beyond the Laughter: Detecting Hatefull Memes with Deep Learning**
	Mentors: Md. Tanvir Rouf Shawon, Mr. Rayhan Tanvir (Ahsanullah University of Science and Technology).
	Conducted research on the MUTE multimodal hate speech dataset, which includes hateful memes (images and captions).Applied deep learning models to both visual and textual data, evaluating them individually and in combination (multimodal approach). Compared performance metrics across different models. Summary of findings available here.
December 2023 – February 2024	**Assessing Credit Risk of Bank Customers using Machine Learning Algorithms**
	Mentors: Mr. Faisal Muhammad Shah, Md. Zahid Hasan (Ahsanullah University of Science and Technology).
	This research focused on predicting which bank customers are likely to be risky in terms of credit repayment. Using a kaggle 'credit risk' dataset, advanced feature engineering techniques were applied to prepare the data, followed by training various machine learning models. The models were compared to evaluate their result in predicting which customers would be granted credit and which would be too risky. Summary of findings available here.
July 2024 – September 2024	**Classification of Forest Cover Type Based on Soil Characteristics using Machine Learning**
	Mentors: Professor Dr. Md. Shamim Akhter, Mr. Md. Zahid Hasan, Mr. Md Rasheduzzaman (Ahsanullah University of Science and Technology).
	This research focused on classifying forest cover types based on soil characteristics through big data analysis. Exploratory Data Analysis (EDA) was conducted to uncover patterns in the data, and the PySpark library was employed to implement machine learning models. The study aimed to improve classification accuracy by handling large datasets efficiently. Summary of findings available here.
January 2024 – February 2024	**Detecting Covid19 and Pneumonia from Chest X-ray Images using Hybrid Deep Learning Models**
	Mentors: Md. Tanvir Rouf Shawon, Mr. Rayhan Tanvir (Ahsanullah University of Science and Technology).
	This research aimed to detect Covid-19 and pneumonia from chest X-ray images using custom deep learning models. Models like CNN, RNN, LSTM, BiLSTM, and a hybrid CNN + BiLSTM were applied, with the hybrid model outperforming the single models in accuracy and performance.
July 2023 – September 2024	**Stroke Risk Prediction using Machine Learning**
	Mentors: Mr. Mohammad Marufur Rahman (Ahsanullah University of Science and Technology). This research focused on predicting the risk of stroke using machine learning techniques. Various models were applied to analyze patient data and predict the likelihood of stroke occurrence, aiming to improve early detection and intervention by identifying high-risk individuals through data-driven insights.

Projects

August 2024 –
September 2024

A Couch and Lamp

Developed a 3D model of a couch and a lamp using Three.js, incorporating a variety of textures to enhance visual realism. Integrated interactive features, enabling keyboard and mouse controls for user interaction, including object manipulation and camera movements. The project is available here.

July 2023 –
September 2024

IT Store Requisition Management System

Developed a desktop application for managing IT store requisitions using JAVA as the primary programming language and Microsoft SQL Server for database management. The system streamlined the process of submitting, tracking, and fulfilling requisition requests, improving overall operational efficiency. It included features like inventory tracking, user authentication, and reporting functionalities, demonstrating proficiency in desktop application development and database integration. The project is available here.

July 2023 –
September 2023

Rent And Run

Developed a car rental website using the ASP.NET MVC Framework. The frontend was built with JavaScript, HTML, and CSS, ensuring a responsive and user-friendly interface. The backend was implemented using C# programming language, integrated with Microsoft SQL Server for efficient data management. The website features functionalities such as vehicle booking, user authentication, and payment processing. The project is available here.

April 2022 –
June 2022

Helpmate

Developed an all-in-one Android app using Android Studio and Kotlin programming language, integrated with Firebase for backend support. The app consolidates essential online services, including transportation, education, emergency assistance, healthcare, and job listings. The project is available here.

June 2021 –
September 2021

Road To Triumph

Developed "Road To Triumph," a 2D typing-based game using C/C++ and OpenGL, incorporating a custom wrapper library named iGraphics. The game merges elements from bubble shooting and traditional typing games, challenging players to type words accurately and quickly. The project is available here.

May 2022 –
May 2022

Balloon Shooting

Developed a basic balloon shooting game using C and a custom wrapper library named iGraphics. The game serves as an introductory project to understand the core concepts of game development, including object rendering, event handling, and interaction. The project is available here.

Professional memberships

2022 – 2024

AUST Programming and Informatics Club

Executive Member

2021 – 2024

AUST Innovation and Design Club

Executive Member

Technical skills

Programming languages:

Python, C, C++, Java (Proficient in)

Kotlin, C#, HTML, CSS, PHP, JavaScript (Familiar with)

Database:

MySQL, Microsoft SQL Server (MsSQL), Oracle

Deep Learning Tools:

Scikit-Learn, Keras, Tensorflow, PyTorch

Software:

LaTeX, Git.

Languages:

Bengai (Native), English (Fluent)

Other interests

Reading, Chess, Football, Tennis, etc.