SM Firoz Ahmed Fahim

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Education

05.2018 – 08.2022
Dhaka, Bangladesh

Bachelor of Science in Computer Science and Engineering,
American International University Bangladesh
CGPA: **3.45/4.00**
Last 60 credit GPA: **3.60/4.00**

2014 – 2016
Khulna, Bangladesh

Higher Secondary Certificate, *Govt. Bangabandhu College*
GPA: **5.00/5.00**

2006 – 2014
Khulna, Bangladesh

Secondary School Certificate, *Khulna Zilla School*
GPA: **5.00/5.00**

Professional Experience

2022
Dhaka, Bangladesh

Undergraduate Teaching Assistant, *American International University Bangladesh*

- Performed as a Teaching Assistant at American International University - Bangladesh under the supervision of Mahfuzur Rahman Sir (Lecturer) on the Theory of Computation and Computer Graphics courses

2022 – 2023

Backend Developer, *Fiume*

- Collaborated with a cross-functional team to design, develop, and maintain backend systems and applications to support Fiume's business objectives.
- Designed and implemented RESTful APIs, ensuring efficient data exchange between the front-end and back-end systems.
- Developed server-side logic and business logic, ensuring seamless functionality and a great user experience for Fiume's clients.
- Implemented robust security measures, including authentication and authorization protocols, to protect sensitive data and ensure compliance with industry standards.

02.2022 – 01.2023
Dhaka, Bangladesh

Local Committee Vice President - AIESEC in Dhaka South, Bangladesh, *AIESEC*

- Worked as the Local Committee Vice President – outgoing Exchanges, where I solely managed the function while managing and leading a set of team members and leaders toward achieving set goals.
- Privileged to participate as a guest speaker in two International Programs in Vietnam and China.
- Built International Relationships with multiple local committees from several countries, including India, Dubai, Turkey, Brazil, Sri Lanka, Egypt, China, Thailand, Tunisia, Vietnam, Philippines.

08.2021 – 01.2022
Dhaka, Bangladesh

Team Leader- AIESEC in Dhaka South, Bangladesh, *AIESEC*

- Executed my job role as a Team Leader – Education of Global Talent function which focused on creating and catering to foreign and local internship opportunities for the youth in 2021.

08.2019 – 07.2021
Dhaka, Bangladesh

Product Manager- AIESEC in Bangladesh, *AIESEC*

- Conducted multiple meetings with different organizations.
- Converted them as our partners.
- Made International partnerships with different local committees.

Projects

Smart Home Application Using Hand Gesture
- Turn on/off the Light and Fan by hand gesture through Laptop Camera.
- Fan speed control.
- Language: Python

Web Series by ASP. NET
- Admin is responsible for managing employees, expense tracking, and database handling.
- Streaming Manager is responsible for uploading videos and deleting videos.
- Package Manager is responsible for managing promo codes and making packages.
- Languages: .NET, JavaScript

Grocery Store Management System
- Product Catalog: This could include a list of all the available products.
- Shopping list: Users should be able to create and manage a list of items they need to purchase.
- Inventory management: The system should be able to track the current stock of each product.
- Languages: JavaScript, PHP, CSS

Banking Management System
- Account creation: Allow users to create new accounts with account numbers and personal information.
- Login system: Allow users to log in to their accounts using a username and password.
- Balance inquiry: Allow users to check their account balance at any time.
- Transactions: Users can make deposits, withdrawals, and transfer funds to other accounts.
- Language: Java

Research Experience

Undergraduate Thesis, *Area of Research: Machine Learning, NLP*
Topic: Suicidal Tendency Detection Using Machine Learning Algorithms *
- The aim of this work is to develop machine learning models to detect whether it is suicidal or not. Here we are using Naive Bayes, TF-IDF, and Word2vec techniques.

An Investigation into the Prediction of Annual Income Levels through the Utilization of Demographic Features Employing the Modified UCI Adult Dataset, *Area of research: Machine Learning*

- The aim of this work is to predict annual income levels using demographic data from the UCI Adult Dataset, classifying incomes as <=50K or >50K based on 14 personal characteristics. Employing appropriate categorical data methods and missing value strategies, the research evaluates eleven machine learning models, including Logistic Regression, Naive Bayes, K-Nearest Neighbors, SVMs, Decision Trees, Random Forest, XGBoost, and Neural Networks. The study underscores the importance of optimization, evaluation, and model comparison in achieving accurate predictions. Certain demographic factors prove more influential in specific models; Logistic Regression provides foundational insights, while XGBoost and Neural Networks enhance accuracy, with clustering contributing valuable insights. The study concludes that ensembling XGBoost and Neural Networks yields 87% accuracy, emphasizing preprocessing, algorithm choice, and optimization for robust predictions and insights to inform revenue-related decisions.

A review of Speech Emotion Recognition, *Area of Research: Machine Learning*

- The aim of the work is to provide an overview of the current state of research, different techniques and algorithms, challenges and limitations of the methods in this field.

A Survey on Wireless Sensor Network Routing Performance Optimizing and Security Techniques,
Area of research: Network and Security

- The aim of this work is to survey the literature on wireless sensor networks (WSNs) and explore various routing protocols, including Hierarchical Based Routing Protocols (HBRP) and Location-Based Routing Protocols (LBRP), to achieve efficient transmission while considering power consumption and security as key performance metrics.

Encoding, Early Stopping, Hyper Parameter Tuning, and Machine Learning Models for Bank Fraud Detection, *Area of Research: Machine Learning and AI*

- The aim of this work is to create an effective fraud detection system for secure banking using machine learning and AI. The study applies four supervised models to detect bank fraud in a synthetic dataset. Steps include data preprocessing, feature engineering, and performance evaluation. Though accuracy is similar among models, logistic regression stands out with 98.92% accuracy using label encoding. Strong AUC values are achieved with XGBoost and LightGBM. The study suggests real-world applications in banking, insurance, and finance. It addresses the sector's vulnerabilities due to the Internet's growth and computing power. The ultimate goal is to prevent unauthorized transactions and develop a credit card fraud detection system.

Certificate Validation Using Blockchain Technology, *Area of Research: Blockchain*

- The aim is to use blockchain technology to create a secure, tamper-proof, and trustless mechanism for verifying the authenticity and validity of various certificates, including educational degrees, professional certifications, licenses, and other important documents, ensuring trustless verification and reducing fraud.

Courses

Python for Everybody Specialization, *University of Michigan*
https://coursera.org/share/f7fbe48c7e79c922aa42ce0b4f382b84

- Learned fundamental programming concepts, including data structures, networked application program interfaces, and databases, using the Python programming language. In the Capstone Project, I created data retrieval, processing, and visualization applications.

Python Data Structures, *University of Michigan*
https://coursera.org/share/c7e0e0575f76ea9211a34b7f3c43e88f

- Learned how we can use the Python built-in data structures such as lists, dictionaries, and tuples to perform increasingly complex data analysis.

Blockchain Basics, *University at Buffalo*
https://coursera.org/share/877ee7d079cd35ca5e371639ba0ed7c3

- Got an overview idea of the essential concepts of blockchain technology – by initially exploring the Bitcoin protocol followed by the Ethereum protocol.
- Learned about Smart contracts, Decentralized applications.

The Data Scientist's Toolbox, *Johns Hopkins University*
https://coursera.org/share/d18141a77ee39535f2a8ee348be3534f

- Got an overview idea of the data, questions, and tools that data analysts and data scientists work with.

Skills

Python	TensorFlow
OpenCV	PyTorch
Pandas	Matplotlib
LaTeX	Java
JavaScript	ASP.NET

Languages

- English

Awards

Government Scholarship, *Jessore Board*
- Awarded Government Scholarship for securing 12th Position in Jessore Board in 2016

References

Prof. Dr. Md. Asraf Ali, *Professor, Deparment of Computer Science*,
American International University Bangladesh
asrafali@aiub.edu

Raihan Uddin Ahmed, *Senior Lecturer*, University of West Georgia
rahmed@westga.edu

Nazia Hossain Briti, *Ph.D. Candidate*, Federation University Australia
naziahossain@students.federation.edu.au