

# SM Firoz Ahmed Fahim

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## EDUCATION

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05.2018 – 08.2022 Dhaka, Bangladesh	<b>American International University Bangladesh,</b> <i>Bachelor of Science in Computer Science and Engineering</i> CGPA: <b>3.45/4.00</b> Last 60 credit GPA: <b>3.60/4.00</b>
2014 – 2016 Khulna, Bangladesh	<b>Govt. Bangabandhu College,</b> <i>Higher Secondary Certificate</i> GPA: <b>5.00/5.00</b>
2006 – 2014 Khulna, Bangladesh	<b>Khulna Zilla School,</b> <i>Secondary School Certificate</i> GPA: <b>5.00/5.00</b>

## PUBLICATIONS

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- [1] **Healthcare Cost Patterns and Prediction: Investigating Personal Datasets using Data Analytics**, Md Aminul Islam, Anindya Nag, Pretam Chandra, SM Firoz Ahmed Fahim, Md Mozammel Hoque, *International Conference in Signal and Data Processing, 2023*
- [2] **An Investigation into the Prediction of Annual Income Levels through the Utilization of Demographic Features Employing the Modified UCI Adult Dataset**, Md Aminul Islam, Anindya Nag, Nilanjana Roy, Arpita Rani Dey, SM Firoz Ahmed Fahim, Arjan Ghosh, *International Conference on Computing, Communication, and Intelligent Systems 2023*
- [3] **Utilization of Encoding, Early Stopping, Hyper Parameter Tuning, and Machine Learning Models for Bank Fraud Detection**, Md Aminul Islam, Anindya Nag, Saumik Chowdhury, SM Firoz Ahmed Fahim, Arjan Ghosh, Nahi Mumtaj, *IEEE 9th International Women in Engineering Conference on Electrical and Computer Engineering, 2023*
- [4] **A Survey on Wireless Sensor Network Routing Performance Optimizing and Security Techniques**, Anindya Nag, Dishari Mandal, Nilanjana Roy, Nisarga Chand, SM Firoz Ahmed Fahim, *International Conference on Frontiers in Computing and Systems, 2023*

## RESEARCH EXPERIENCE

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**Undergraduate Thesis**, Area of Research: Machine Learning, NLP

**Topic:** Suicidal Tendency Detection Using Machine Learning Algorithms \*

- Currently working on this paper to publish it on a Q1 Journal.
- It is affiliated with Artificial Intelligence Research & Innovation Lab - AIRIL

**Enhancing Synthetic Image Detection: Integrating Machine Learning with Fourier Transform Techniques**,  
Area of Research: Machine Learning and AI

- The aim is to develop advanced ML and DL techniques, including CNNs, using a custom dataset of real and AI-generated images to improve the accuracy of distinguishing between them.
- Apply Fourier Transform techniques to detect noise signatures typical of generative AI within our personal dataset, contributing to more robust digital forensics and content verification tools.

**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.

## 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.

## PROFESSIONAL EXPERIENCE

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07.2024 – present	<b>Research Assistant, Artificial Intelligence Research &amp; Innovation Lab - AIRIL</b> <ul style="list-style-type: none"><li>• Developing machine learning and AI models to solve complex real-world problems.</li><li>• Analyzing data to extract meaningful insights and improve predictive algorithms. - Collaborating on interdisciplinary research projects focused on AI-driven solutions.</li><li>• Applying advanced algorithms to enhance model accuracy and performance across various applications- Developing machine learning and AI models to solve complex real-world problems.</li><li>• Analyzing data to extract meaningful insights and improve predictive algorithms. - Collaborating on interdisciplinary research projects focused on AI-driven solutions. - Applying advanced algorithms to enhance model accuracy and performance across various applications</li></ul>
2022 Dhaka, Bangladesh	<b>Undergraduate Teaching Assistant, American International University Bangladesh</b> <ul style="list-style-type: none"><li>• 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</li></ul>
2022 – 2023	<b>Backend Developer, Fiume</b> <ul style="list-style-type: none"><li>• Collaborated with a cross-functional team to design, develop, and maintain backend systems and applications to support Fiume's business objectives.</li><li>• Designed and implemented RESTful APIs, ensuring efficient data exchange between the front-end and back-end systems.</li><li>• Developed server-side logic and business logic, ensuring seamless functionality and a great user experience for Fiume's clients.</li><li>• Implemented robust security measures, including authentication and authorization protocols, to protect sensitive data and ensure compliance with industry standards.</li></ul>

## EXTRACURRICULAR ACTIVITIES

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02.2022 – 01.2023 Dhaka, Bangladesh	<b>Local Committee Vice President - AIESEC in Dhaka South, Bangladesh, AIESEC</b> <p>AIESEC is a global platform for young people to develop their leadership potential through practical experiences of many kinds, including internships and volunteering opportunities.</p> <ul style="list-style-type: none"><li>• 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.</li><li>• Participated as a guest speaker in two International Programs in Vietnam and China.</li><li>• Built International Relationships with multiple local committees from several countries, including India, Dubai, Turkey, Brazil, Sri Lanka, Egypt, China, Thailand, Tunisia, Vietnam, Philippines.</li></ul>
02.2022 – 08.2022 El Salvador	<b>Entity Support Team (EST) IR Coach, AIESEC in El Salvador</b> <ul style="list-style-type: none"><li>• Conducted training sessions to educate AIESEC members on the principles and practices of International Relations (IR)</li><li>• Facilitated meetings and negotiations with various entities, including representatives from Venezuela, Guatemala, Ecuador, Brazil, Argentina, and Peru, to foster international collaboration and partnerships.</li><li>• Assisted in the planning and execution of international projects and initiatives.</li></ul>

- Acted as a liaison between AIESEC in El Salvador and international stakeholders, ensuring effective communication and cooperation.

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.

## **PROJECTS**

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### **HCI-Smart Home Application Using Hand Gesture**

- Turn on/off the Light and Fan by hand gesture through the Camera.
- 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

## **SKILLS**

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

## **LANGUAGES**

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- English

## **ACHIEVEMENTS & AWARDS**

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2020	<b>International Best Buddy, AIESEC in Vietnam</b>
2018	<b>Best Presenter Award, American International University Bangladesh</b>
2016	<b>Government Scholarship, Jessore Board</b> <ul style="list-style-type: none"> <li>• Awarded Government Scholarship for securing 12th Position in Jessore Board</li> </ul>

## REFERENCES

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**Prof. Dr. Md. Asraf Ali**, *Professor, Department 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