Name: Md. Saiful Islam
Contact: 090 6470 5658
E-mail: saiful.somum@gmail.com
Skype ID: Saiful Somum
Birth Date: 17th January 1997
Place of Birth: Dhaka, Bangladesh
Current Address: 〒211-0041, 201- Daini Corp Tanakaya, 4-20-32 Shimokodanaka, Nakahara Ward, Kawasaki City, Kanagawa Prefecture, Japan.

Best project (blog): http://bit.ly/3WGIXna
JCAT Test (N4 level)**:** https://bit.ly/3kMdgXu
Online portfolio link:
Personal site: https://somum.github.io/somum/
LinkedIn: https://www.linkedin.com/in/saiful-somum/
Github: https://github.com/somum
HackerRank: https://www.hackerrank.com/saiful_somum

CARRIER OBJECTIVE:

A highly skilled Artificial Intelligence Engineer 3 years of hands-on experience in data analysis, machine learning, and software development. Currently working at Mass Holdings Company Limited, in Tokyo, Japan, responsible for the development of a program for predicting sales forecasts and have already developed two AI-based projects; Real-time hair color simulation and Deep learning-based product search by Image. Possessing a strong understanding of various programming languages and technologies, as well as excellent problem-solving skills and ability to work with large, complex datasets. Proven ability to adapt and work in a dynamic environment, committed to delivering high-quality work and continuously improving skills to meet industry demands.

Academic Background:

Degree: B.Sc. in CSE

University Name: Ahsanullah University of Science & Technology

Duration: May, 2015 – July, 2019

Passing Date: 18th July 2019

Employment Experience:

- **Company Name:** Mass Holdings Company Limited

  Company Website: https://www.mass-hd.com/

  Job Title: Software Engineer- Grade 2 (Artificial Intelligence)

  Job Responsibilities: I am a Software Engineer specializing in Artificial Intelligence at Mass Holdings in Tokyo. Currently, my focus is on developing an advanced Hair Style Generator program with StyleGAN2. Recently, I successfully implemented an efficient sales forecasting system for our warehouse and created two innovative AI-based solutions. The first solution enables real-time hair color simulation, allowing users to preview different colors. The second solution utilizes deep learning for a product search feature based on uploaded images. These achievements highlight my expertise in using AI to solve complex problems and drive business growth.

  Duration: 1st December 2020 – Current

- **Company Name:** ULTRA-X BD LIMITED

  Company Website: https://www.uxd.co.jp/

  Job Title: Intern (AI)

  Job Responsibilities: At my first Japanese company, I served as the team leader for a group of 5 individuals. We were responsible for developing a "Speech to Text" conversion program using the Kaldi Automatic Speech Recognition (ASR) system.

  Duration: 1st September 2020 – 30th November 2020

- **Company Name:** SAir AIR BD LTD. (GSA of Himalaya Airlines)

  Company Website: www.sairbd.com

  Job Title: Software Engineer (python)

  Job Responsibilities: I was responsible for conducting data analysis on airlines using Global Distribution Systems (GDS) and developing ERP systems for managing accounts, customer relations, and production materials. Additionally, I deployed a company website, including a visa processing unit using the Django framework, and built a fully functional online travel agency (OTA) system that allowed users to search for flight details using the Django framework, which included API integration.

  Duration: 1st August 2019 – 3rd February 2020

Technical Skills:

A = Team Lead or Managerial Level experience, B = Professional project Experience, C = Personal / Academic Project Experience, D = Theoretical Knowledge

Skills	Level	Skills	Level	Skills	Level
Python (NumPy, Pandas, Scikit-learn, Keras, Matplotlib)	A	Django	A	Falsk/FastAPI	A
Machine Learning (Supervised, Unsupervised learning & Deep learning)	A	SQL (MySQL, PostgreSQL, MongoDB)	A	AWS (Redshift, Sagemaker, S3)	B
Tensorflow	A	Docker	A	Oracle	B
Computer Vision (OpenCV)	A	Git	A	Data mining	B
Data Engineering & Feature Engineering	B	Data mining	B	jQuery	C
JavaScript	B	React	B	ASP.Net	C
PyTorch	C	Android Development	C	R	C
JAVA	C	C++	C	Tableau	C

Professional Project Experience:

Duration	Project Details	Technology Used	My Role (Part of Project)
November, 2022 – January, 2023 (3 Months)	**Project Title:** Product Demand Forecast **Project Overview:** In this project, I worked on various machine learning and deep learning models, including custom models, to forecast sales for a specific product. I utilized models such as FBProphet, ARIMA, and XGBoost, as well as deep learning models like LSTM, Temporal Fusion Transformer, and N-Beats. I faced challenges such as handling sudden high spikes and data volume issues. Ultimately, I chose to use the FBProphet model for its speed and accuracy. The project was deployed using the FastAPI framework and GYOMUDB(production) for data acquisition, and the API was designed to take in the number of days for forecasting and the specific product ID as input. **Live Demo:** https://youtu.be/zW1zKfP4BqU	**Language:** Python **Models & Library:** FBProphet, ARIMA, XGBoost, Temporal Fusion Transformer, N-Beats, Tensorflow **Tool:** Anaconda (Jupyter Notebook)	**Total Number of Members:** 02 **Name of Part:** Planning, Defining, Building, Testing **My Role:** (leading) Model Building, Dataset, API deployment

July, 2022 – October, 2022 (4 Months)	**Project Title:** Product Search by Image & Labeled Text **Project Overview:** In this project, worked on feature selection for product images using various deep learning models such as Resnet50, Xception, DenseNet121, and VGG19. Found that the VGG19 model provided the best results with 93% accuracy. I also implemented NearestNeighbors with bruteforce algorithm for feature matching. For text labeled based search I used Keras-OCR. The project was deployed as a Docker version with Nginx for API implementation. **Live Demo:** https://youtu.be/e8TbE52Kd0c	**Language:** Python, JavaScript **Models & Library:** Resnet50, Xception, DenseNet121, VGG19, Tensorflow **Frameworks & Server:** React (Frontend testing), SQLite	**Total Number of Members:** 02 **Name of Part:** Planning, Defining, Building, Testing **My Role:** (leading) Model Building, Dataset, API deployment
November, 2021 – June, 2022 (8 Months)	**Project Title:** Real-time Hair Color Simulation **Project Overview:** In this project, used the U-Net model with the MobileNetV3 transfer learning model and custom layers to achieve an exact segmentation of hair in images. The model was trained on a dataset of 26,918 images and the Dice coefficient was used as the loss function. Initially, RGB-based coloring was used, but it appeared artificial. HSL coloring formula with customized pipelines was implemented to achieve proper light and color by considering environmental brightness. Finally, the result was as our expectation which is able to automatically detect both long hair and short hair for coloring. Instead of just adding one color, the system allows users to add multiple colors to hair, including color gradients. **Project Overview(blog):** http://bit.ly/3WGIXna	**Language:** Python, JavaScript **Models & Library:** U-Net, MobileNetV3 , Tensorflow **Frameworks & Server:** React (Frontend testing)	**Total Number of Members:** 03 **Name of Part:** Planning, Defining, Building, Testing **My Role:** (leading) Model Building, Dataset, API deployment, Frontend Building

May, 2021 – October, 2021 (6 Months)	**Project Title:** Market Basket Demand Forecasting **Project Overview:** In a Market Basket Analysis project for warehouse, I used a deep learning-based LSTM model to forecast the next combination of baskets (maximum 2) based on previous history of order baskets. Additionally, I also tried data mining techniques like Apriori, Eclat, and FP-Growth for comparison. While the data mining techniques were faster, the deep learning model had a higher accuracy. **Live Demo:** https://youtu.be/ijQRmtlwAlE	**Language:** Python, JavaScript **Models & Library:** LSTM, Apriori, Eclat, FP-Growth, Tensorflow **Frameworks & Server:** React (Frontend testing)	**Total Number of Members:** 02 **Name of Part:** Planning, Defining, Building, Testing **My Role:** (leading) Model Building, Dataset, API deployment
September, 2020 – November, 2020	**Project Title:** Speech to Text (Editable) Conversion **Project Overview:** In this project, we developed a system for converting speech to text using the Vosk us-en model and Kaldi. The system was designed with an intuitive interface using PyQt5, allowing the user to record a video and automatically save the audio as an editable text file after text conversion. The Vosk model was used to transcribe the audio into text, and Kaldi was used to improve the accuracy of the transcription. The resulting text file was editable, allowing the user to make any necessary corrections or modifications. **Live Demo:** https://bit.ly/3JiF3hf **Project Overview:** https://bit.ly/3XURMKR	**Language:** Python **Models & Library:** VOSK, Kaldi **Framework:** PyQt5	**Total Number of Members:** 05 **Name of Part:** Planning, Defining, Building, Testing **My Role:** (leading) Assigning Tasks, Model Building, API implementation

December, 2019 – January, 2020 (2 Months)	**Project Title:** Sair AIR BD GSA Website **Project Overview:** The identity of the company. It includes the destinations and the packages against the destination the company provides. Another part is the Visa application section where the customer can apply and the company will process that with further follow-up status. **Live:** www.sairbd.com **Project Link:** https://github.com/somum/GSA_Website_X_C ompany	**Language:** Python, JavaScript **Frameworks & Server:** Django Framework, Bootstrap, SQLite **Tool:** PyCharm	**Total Number of Members:** 02 **Name of Part:** Designing, Building, Testing, Deployment **My Role:** Full Stack (Leading)
November, 2020 (1 Month)	**Project Title:** Flight Search (Travel Company) **Project Overview:** An online travel agency needs to integrate API from the provider like Amadeus, Sabre, etc. Here the project integrated the Travelpayouts API which shows route wise flight search, departure, return, price. **Project Link:** https://github.com/somum/somumFlight_Search_With_IATA_Code-API	**Language:** Python **Framework & Library:** Django Framework, REST API, Bootstrap **Tool:** PyCharm	**Total Number of Members:** 01 **Name of Part:** Designing, Building, Testing, Deployment **My Role:** Interface design, API Integration
August, 2019 - October, 2019 (3 Months)	**Project Title:** ERP System **Project Overview:** An ERP based website for customer managing of the airline. Several units do different types of work here. Accounts unit does the invoice and other credits, debits here. Data entry unit does the customer info part and reservation does the agency handling. **Live:** http://cmd.sairbd.com/ **Project Link:** https://github.com/somum/ERPX_Company **Project PPTX:** https://drive.google.com/drive/folders/1DSiqPdjT6jo95dQEztTAz8qny-MJN2t5	**Language**: PHP, JavaScript, AJAX, **Framework & Database:** Bootstrap, MySQL **Tool:** Sublime, XAMPP	**Total Number of Members:** 02 **Name of Part:** Designing, Building, Testing, Deployment **My Role:** Full Stack (Leading)

Academic or Personal Project Experience:

Duration	Project Details	Technology Used	My Role (Part of Project)
August, 2018 – December, 2018 (5 months)	**Project Title:** "Real Time Bangladeshi Sign Language Detection using Faster R-CNN" **(Publication)** **Project Overview**: In this project, we have developed a technique to detect Bangladeshi Sign Language (BdSL) from images & video in real-time using neural networks. For this purpose, we developed two types of custom datasets (image & video). Image dataset was used for letter detection using Faster R-CNN method & video dataset for word detection using LSTM method. **Project Link:** DOI: 10.1109/CIET.2018.8660780 **Live Demo:** https://youtu.be/8NLwOpQCmW0	**Language:** Python **Models & Library:** Inception V3, Faster R-CNN, Tensorflow **Tool:** Anaconda (Jupyter Notebook)	**Total Number of Members:** 05 **Name of Part:** Planning, Defining, Building, Testing **My Role:** Building Dataset, Faster RCNN Model Building
June, 2020 (15 days)	**Project Title:** Covid-19 (X-ray) Detection with Xception Model **Project Overview:** A deep learning model using the Xception model to detect COVID-19 from X-ray reports. The model was trained on two classes: Covid-19 positive and normal patients. The next step for this project is to expand the dataset to include more classes for increased accuracy and performance. **Live demo:** bit.ly/3fPAqcd **Project Link:** https://github.com/somum/Covid-19-Xray--Detection-with-Xception-Model	**Language:** Python **Framework:** Tensorflow, Keras **Tool & Model:** Anaconda, Xception (ImageNet)	**Total Number of Members:** Solo Project **Name of part:** Defining, Dataset collection & cleaning, Model implementing, Testing **My Role:** Solo Project

May, 2020 – June, 2020 (1 Month)	**Project Title:** Facial Recognition Based Employee Attendance with Haar cascade **Project Overview:** Developed an AI-based employee attendance system that utilizes a faster new employee enrollment process with a quick data train. The system features a user-friendly interface for day-to-day identification and maintains a record of each individual in a CSV file. The project also includes an improved version with the VGG19 algorithm, which is available in live demo video description section. **Live demo:** bit.ly/318Rvda **Project Link:** https://github.com/somum/FacialRecognision-Based-EmployeeAttendance-with-Haar-cascade	**Language:** Python **Framework & Library:** Haar Cascade Anaconda, Tkinter **Tool:** PyCharm	**Total Number of Members:** Solo Project **Name of Part:** Model implementation, Interface design, Dataset collection **My Role:** Solo Project
Jan, 2019 – April, 2019 (4 Months)	**Project Title:** KNN Classification **Project Overview:** Developed a predictive model that uses previous data to determine the upcoming CGPA of students. The model utilizes KNN classification to analyze the data and provide a location suggestion for food near the students. By utilizing this model, students can better plan their academic and personal lives by being aware of their upcoming CGPA and having a convenient location for food. **Project Link:** https://github.com/somum/ClassificationWith-KNN	**Language:** Python **Library:** Numpy, pandas, matplotlib **Tool:** Jupyter Notebook	**Total Number of Members:** Solo Project **Name of Part:** Model Implement, Dataset Cleaning **My Role:** Solo Project
January, 2019 – April, 2019 (4 Months)	**Project Title**: Inventory World **Project Overview:** Developed an inventory management software system that allows businesses to track their stocked products, orders, sales, and deliveries. The software was built using Servlet and JSP, with a custom bootstrap design for a user-friendly interface. The project required me to design and implement a database, create servlets and JSP pages, and integrate a custom bootstrap design. **Project Link:** https://github.com/somum/InventoryManagement-System	**Language:** Java **Tool:** Java Servlet	**Total Number of Members:** 02 **Name of Part:** Planning, Building, Testing, Deployment **My Role:** Product Update, Delete.

January 2019 – April, 2019 (4 Months)	**Project Title**: String Recognizer **Project Overview:** An Android application that allows users to detect letters from any image or document and save, edit, and send them to others. The app utilizes OCR technology to detect letters and convert them into editable text. The user can also capture an image of the text using the camera and process it through the OCR engine. The app also includes an editing feature, where the user can make changes to the text before saving or sending it. **Project Link:** https://github.com/somum/StringRecognizer	**Language:** Java, XML **Tool:** SQLite, Android Studio	**Total Number of Members:** Solo Project **Name of Part:** Google OCR, Design, Implementation **My Role:** Solo Project
April, 2018 – June, 2018 (3 Months)	**Project Title**: Al-Bintum Super Shop Management **Project Overview:** A Distributed Database Management System (DDMS) that segments store branches for best outcome and necessity. The DDMS distributes data across multiple branches, ensuring data availability and reliability. The final product is a functional and efficient DDMS for businesses with multiple branches. **Project Link:** https://github.com/somum/AlBintumSuperShopManagement	**Language:** PL/SQL **Tool:** Oracle 10g XE	**Total Number of Members:** 03 **Name of Part:** Planning, Building, Testing, Deployment **My Role:** Creating Relational Database, Trigger
June 2017 – September 2017 (4 Months)	**Project Title**: Teacher Student Collaboration System **Project Overview:** A web-based platform for teachers to create and upload course materials for students to access. The platform includes a user-friendly interface and a system for student enrollment and access to materials. **Project Link:** https://github.com/somum/TeacherStudent-Collaboration-System	**Language:** C# **Framework:** ASP.NET MVC5 Framework **Tool:** Visual Studio	**Total Number of Members:** Solo Project **Name of Part:** Solo Project **My Role:** Full Implementation.

December, 2016 – March, 2017 (4 Months)	**Project Title**: Foodie **Project Overview:** Developed an Android app that allows users to search for food against a restaurant, view location, and contact information. The app requires login and utilizes a user-friendly interface for easy navigation. **Project Link:** https://github.com/somum/Foodie	**Language:** Java **Tool:** Android Studio	**Total Number of Members:** 02 **Name of Part:** Building, Deployment **My Role:** CRUD part of logging and food item of Restaurants.
July, 2016 – October, 2016 (4 Months)	**Project Title**: AustVirus **Project Overview:** A basic browsing software. Avoiding unwanted advertisements, back & forward options, quick search result, jump into address with history option. **Project Link:** https://github.com/somum/AustVirusbrowser	**Language:** JAVA **Tool:** XML, NetBeans	**Total Number of Members:** Solo Project **Name of Part:** Solo Project **My Role:** Full implementation.
July, 2016 – October, 2016 (4 Months)	**Project Title**: Catch the Egg **Project Overview:** An Arcade game built with iGraphics. There one can find a complete game working flows with raw design, levels with difficulties, high score board. **Project Link:** https://github.com/somum/Catch-TheEgg	**Language:** C **Tool:** iGraphics, Visual Studio	**Total Number of Members:** 02 **Name of Part:** Designing, Building **My Role:** Raw design & creating difficult levels of the game.

Training:

Training Title	Location	Institute	Issue Date
The Elements of Data Science	Online	AWS	December, 2022 –
Deep Learning Prerequisites: The NumPy Stack in Python	Online	Udemy See Credential	April, 2020
Intel® Edge AI Scholarship Foundation Course Nanodegree Program	Online	Udacity See Credential	March, 2020

PyTorch for Deep Learning in 2023: Zero to Mastery	Online	Udemy	Ongoing

Language Skills:

Language	Reading	Writing	Listening	Speaking
Japanese	N4 Level	N4 Level	N3 Level	N3 Level
English	IELTS 6 (Overall)			
Bengali	Native	Native	Native	Native

Special Achievements:

1. Passed the **N4 Level** of Japanese Computerized Adaptive Test (J-CAT).
   Ref: bit.ly/3kMdgXu

2. Completed Bangladesh-Japan ICT Engineers' Training Program with "**100% Attendance Award".**
   Ref: https://bit.ly/3HfzFbI

3. "**Gold Level**" in Problem Solving & Python on **HackerRank**.
   Ref: https://www.hackerrank.com/saiful_somum

4. **Participated Contests:** INNOVENTURE 17(software category)**,** INTRA AUST Programming Contest Spring 2016, Engenius 17 Inter University Tech Competition (software category).
   Ref: bit.ly/31EsQLP