Mustahid Ahmed

Last updated: March 13, 2023

Online Version
https://ahmedmustahid.github.io/html-cv

Residence
Tokyo, Japan

Nationality
Bangladesh

Git Profile
https://github.com/ahmedmustahid

Email
amustahid25@gmail.com

Python	++++	C++17	++++	C	++++	Dart/Flutter	++++	Swift	+++	Azure	+++
AWS	++++	Statistics	++++	Image Processing	++++	NLP	+++	Algorithms	++++	Data Structure	++++

Professional Experience

Sensyn Robotics

Machine Learning Engineer

May 2022 - Present

HyperCube Ltd.

Machine Learning Engineer

April 2020 - April 2022

Self employed

Software Engineer

April 2020 - Present

Projects

Crack segmentation from tiles, Sensyn Robotics

Feb 2023 - Present

```
  Implementing model for crack segmentation using novel transformer based segmentation
architecture inspired from retinal vessel segmentation
  in medicine literature
```

Python | Pytorch | OpenCV | mmcv

Analog gauge reading by computer vision, Sensyn Robotics

November 2022 - Present

Constructed model for accurately reading the analog gauge by determining the position of the dial, minimum and maximum values from the face of the scale after applying
perspective transformation. Squeezed the model into smaller size by quantization in C++ and then deployed it into jetson nano.

Python | Pytorch | OpenCV | onnx | mmcv | Apache TVM | ncnn

Extraction of information from hand written documents using deep learning methods, Sensyn Robotics

August 2022 - October 2022

Extracting data from tables, paragraphs, drawings etc in images of handwritten documents and serializing them into respective formats by
means of a Bert based model

Python | Pytorch | OpenCV | Tesseract OCR

People detection from fish eye images, Sensyn Robotics

May 2022 - July 2022

Because commonly used algorithms are not suitable for fish eye images, implemented new algorithm that can detect people in such images by including
information of angular values of slanted bounding boxes.

Python | Pytorch | OpenCV

NLP based Chatbot, HyperCube Ltd.

June 2021 - October 2021

Model deployment, system design and maintenance using AWS Amplify, AWS Api Gateway, AWS Lambda, AWS Sagemaker.
Front and backend development using Flutter/Dart/Swift programming languages.

AWS | Dart/flutter | Swift | Docker | Git

Database design and deployment, HyperCube Ltd.

March 2021 – May 2021

Designed MySQL database schema and deployed it in Azure.
Using web application API to connect web app with the database.

MySQL | Azure | Python | Git

Supply Chain Optimization, HyperCube Ltd.

December 2020 - February 2021

```
Research on optimization problems.
Using linear programming and integer programming methodologies in Gurobi Python and C++ for supply chain optimization.
```

Python C++ Git

Video Anomaly Detection, HyperCube Ltd.

May 2020 - November 2020

```
Research on deep learning based activity detection algorithms.
Constructing and deploying algorithm to detect anomalous events in video.
Transferring the analysis data to Azure DB deployed in cloud.
```

Python OpenCV PyTorch MySQL Azure Docker Git

Memorize: A game for training memory, Self employed

June 2021 - Present

```
Designing front end and game logic in Swift programming language.
```

Swift Git

Academic Qualifications

Tohoku University Sendai, Japan
MSc. Elementary Particle Physics [2018 - 2020]

Tohoku University Sendai, Japan
BSc. Physics [2014 - 2018]

Tokyo University of Foreign Studies Tokyo, Japan
Associate Degree, Japanese Language [2013 - 2014]

Research/Talks

Masters Thesis: Machine Learning, Deep Learning, Data Analysis

```
Simulation of particle collisions and their reaction in particle detectors using C++.
Desiging particle detectors using C++ framework.
Analyzing data read by particle detectors using machine learning and deep learning algorithms.
```

Python OpenCV PyTorch C++ Git CMake

Conference Presentation: Japan Physical Society Annual Meeting

```
  Full Detector Simulation of Pair Monitor and Application of Machine Learning to Determine
Determine Beam Size
  Nagoya University, Nagoya, Japan [March '20]
```

Conference Presentation： International Workshop on Future Linear Colliders

```
  Search for weakly interacting dark matter in the International Linear Collider
  University of Texas, Arlington, Texas, USA. [Oct '18]
```

Language Skills

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  English, Business Level, TOEFL iBT 110
  Japanese: Business Level
  Bengali: Native Level
```

MOOCs

- Deep Learning Specialization : Coursera, Stanford Online
- Algorithm Specialization : Coursera, Stanford Online
- GAN Specialization : Coursera, Stanford Online
- NLP Specialization : Coursera, Stanford Online
  Categories: Python C++ Algorithms Deep Learning