Mustahid Ahmed

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Online Version

Residence
Tokyo, Japan

Nationality
Bangladesh

Git Profile
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Python	++++	C++20	++++	C	++++	Dart/Flutter	++++	Swift	+++	Javscript	+++
AWS	++++	Statistics	++++	Image Processing	++++	NLP	++++	Algorithms	++++	Data Structure	++++

Professional Experiece

Pioneer Electronics

Machine Learning Engineer

July 2023 - Present

Sensyn Robotics

Machine Learning Engineer

May 2022 - June 2023

HyperCube Ltd.

Machine Learning Engineer

April 2020 - April 2022

Self employed

Software Engineer

April 2020 - Present

Projects

Implemented RAG pipeline with LLM for Qualcomm SoC,Pioneer Electronics

April 2024 - August 2024

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Designed and implemented end to end RAG pipeline from scratch using faiss and llama.cpp.
Increased RAG accuracy by choosing the correct embedding and chunk size.
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C++ | Conan | git | faiss | llama.cpp

Designed end to end middleware system for automotive radar,Pioneer Electronics

August 2023 - March 2024

Implemented API to that obtains sensor data streams and transfers them to machine learning module to deliver inference results back into an alarm sytem.
Implemented lock free ring buffer system that stopped data loss and enabled extremely fast inference.

C++ CMake git CI/CD

Analog gauge reading by computer vision,Sensyn Robotics

November 2022 - April 2023

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

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

Designed novel algorithm for OCR of Japanese fax documents,Self Employed Batton Ltd

Collected and labelled dataset of fax documents containing tables. Implemented novel algorithm to extract its data and obtained 97% accuracy.
Dockerized the model and created http endpoint using torchserve. Deployed the docker container into GCP Artifact registry and created an inference endpoint.

Python Pytorch torchserve OCR Docker GCP

Japanese kanji generation from a specific font,Self Employed

AI Idea Lab

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Used controlnet and prompt engineering to create Kanjis from novel fonts.
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Python Image Generation

Education

Tohoku University
MSc, Particle Physics [2018 - 2020]

Tohoku University
BSc, Physics [2014 - 2018]

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

Research

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.
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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]
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Languages

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