

# MD. ASIF IQBAL FAHIM

## Kaggle Competition Expert(x2) – NLP Mentor(Coursera) – Researcher(ML)

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github.com/AIFahim    researchgate.net/profile/Md-Asif-Fahim    k [kaggle.com/AIFahim](https://www.kaggle.com/AIFahim)

## EDUCATION

### B.Sc. in Computer Science and Engineering

**Green University of Bangladesh** 📅 Sep 2017 – Dec 2020

- CGPA: 3.57 out of 4.00 – Ranked 2<sup>nd</sup> in Batch – Received (2 times) **Dean Awards** for excellent Academic Performance.

## WORK EXPERIENCE

### Jr. Machine Learning Engineer-Full time

**REVE System Ltd., Dhaka** | 📅 15th December 2022 – Present

- Developed **Speech-to-Text (STT)** models by adapting OpenAI Whisper wav2vec2 models, incorporating dataset-specific vocabulary. Created phoneme and grapheme models for speech-to-phoneme and speech-to-text conversion.
- Contributed to various **Text-to-Speech (TTS)** models (Align TTS, GlowTTS, FastSpeech2, vits, ProDiff). Explored vocoders (HiFiGAN, MultiBandMelGAN, WaveRNN, UnivNet) to improve speech quality.
- Applied echo cancellation and Speech **Augmentation techniques** (e.g., Noise-Mixing, Time-Scaling, PitchShifting) to voice data.
- **Evaluated** data quality using crowdsourced Speech-to-Text (STT) and Text-to-Speech (TTS) tools. Performed Exploratory Data Analysis (EDA), visualization, and outlier handling.
- Implemented **dynamic training** in a virtual container for a 900-hour dataset, including preprocessing and storing data and augmentations.
- Utilized Whisper JAX framework for **optimizing inference speed**. Applied pruning techniques to streamline models while preserving performance. Leveraged Peft and LoRa techniques for large-scale Whisper model training.
- **Deployed** multiple API endpoints on local servers using FastAPI and Flask frameworks, ensuring seamless integration and inference.
- Developed WhisperX, a precise **streaming service** for speech recognition. Integrated voice activity detection and forced phoneme alignment for long-form audio.

### Research & Teaching Assistant - Full time

**RIoT Center and Coding for All Project, Independent University of Bangladesh, Dhaka** | 📅 September 2022 – 14th December 2022

- Worked in Research project: Response of Bevacizumab effectiveness in Ovarian Cancer. from WSI Dataset w/ fine-tuned State-of-the-art ViT model & achieved 96% Test Accuracy & 99% ROC AUC Score. (Paper writing stage for Q1 journal)
- Taught the course under the CSE department of IUB, - CIS 101: Fundamentals of Computer Systems LAB for three sections total students 40/Class.

### Research Assistant - Full time

**Institute of Advanced Research (IAR), United International University, Dhaka** | 📅 February 2022 – August 2022

- Worked in Research project, Semantic Biomedical Image Segmentation Using Attention Mechanism Driven Modified U-Net Based on Deep CNN (funded by the Institute of Advanced Research, UIU, Grant Reference: UIU/IAR/02/2021/SE/25.)

### Junior Research Assistant - Part time

**Research Hub.Inc, Dhaka** | 📅 Sep 2021 – Mar 2022

- Did Research on Efficiently Convert Time Series Data to Image & DeepLearning Modeling for Credit Card Fraud Detection.

### NLP Specialization Mentor & Alpha Tester

**Deeplearning.AI, USA** | 📅 February '21 – May '21

- Tested curriculum before published to the Coursera & Provided feedbacks to course staffs. Guide learners if didn't understand the course contents.

### Data Scientist - Independent Contractor

**Ilekun Health, USA** | 📅 May 2021 – July 2021

- Aggregate NYC borough's dentist data by web scraping (**Selenium & Scrapy**), Data cleaning, Predictive modeling.

### Data Science - Trainee

**CRIDA, Canada Based Organization, Dhaka** | 📅 March 2021 – June 2021

- **Build Attention Based LSTM Networks**, Used TPU Strategy - Distributed Training for a large amount of Dataset, Used Frameworks Like PyTorch, TensorFlow.

### Android Application Developer - Intern

**Leotech Ltd.(Govt. Project), Dhaka** | 📅 November 2019 – May 2020

- Worked with **MVVM Pattern, Rest API, Firebase, MLKit, Google Sceneform** in **fast-paced environment**, wrote maintainable and reusable Java and Kotlin Code.

## ML ACHIEVEMENTS & ACTIVITIES

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- **"Expert" in Kaggle ML/DL Competitions** - Rank **Top 0.8%** among 182K+ & **"Expert" in Kaggle Discussions Forum** - Rank **Top 0.3%** among 269K+ active Kaggle users worldwide.
- **PetFinder.my - Pawpularity Comp., Kaggle** - **Silver Medal** Rank in Top 2%
- **G-Research Crypto Forecasting Comp., Kaggle** - **Silver Medal** Rank in Top 5%
- **G2Net Gravitational Wave Detection Comp., Kaggle** - **Bronze Medal** Rank in Top 10%
- **Bristol-Myers Squibb Molecular Translation Comp., Kaggle** - Rank in Top 13%
- **Cassava Leaf Disease Classification Comp., Kaggle** - Top 16%.
- **Dhaka AI Traffic Challenge Comp., GUB**- Finished at 45<sup>th</sup>.
- **Top 6% Contributor to Data Science Stack Exchange** in 2021.
- **AWS Machine Learning Scholarship Program, Udacity** - **Scholar**

## TOP PROJECTS

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### Camera Beautify - AI Face Recognized Android Application

- Bangladeshi traditional AI-based Camera Stickers & Face Beautify Android App made with backend model tflite version of Mobilenet SSD, OpenCV & Android Components.

### New Connection Chat Bot

- Python backend conversational Telegram Chat Bot for helping depressed people. Google Dialogflow integrated into the software to become more intelligent.

### Customer Car Purchased Group Classification and Prediction

- Used Support Vector Machine for Predicting Car Purchased Group. Did dataset pre-processing, Feature Scaling, Statistical Analysis

Rest 14 projects are listed: <https://aifahim.github.io/#project>

## CERTIFICATIONS

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- Deep Learning Specialization, DEEPLARNING.AI, Coursera.
- AWS MACHINE LEARNING NANODEGREE PROGRAM, AWS, UDACITY.
- Tensorflow Developer Specialization, DEEPLARNING.AI, Coursera.
- AI for Medicine Specialization, DEEPLARNING.AI, Coursera.
- Generative Adversarial Networks (GANs) Specialization, DEEPLARNING.AI, Coursera.
- Natural Language Processing Specialization, DEEPLARNING.AI, Coursera.
- Intro to ML: Image Processing, Qwiklabs.
- Intro to ML: Language Processing, Qwiklabs.
- Android App Development Specialization, Vanderbilt University, Coursera.

## ADMINISTRATIVE EXPERIENCE

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- **Advisor**, IEEE GUB Student Branch
- **Programming Secretary**, Green University Programming Club
- **Joint General Secretary**, Green University Reading Society
- **Core Team-member & Contributor** in International AI-based Dhaka Traffic Detection Challenge, Green University of Bangladesh, Dhaka

## TECHNICAL SKILLS

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- **Languages:** Python, R, Java, Kotlin, C/C++, JavaScript
- **Lib/Frameworks:** TensorFlow, PyTorch, React, jQuery, Flask, JUnit
- **Tools:** Google Colab Environment, Kaggle Environment, Android Studio IDE, Pycharm, VS Code
- **Platforms:** Google Cloud Platform, Heroku, AWS
- **Databases:** SQL, Cloud Databases

## HACKATHONS/PROJECT COMPETITIONS

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**Nasa Space Apps Challenge '20** Champion — Global Nominee (LINK)

**Nasa Space Apps COVID-19 Challenge '20** Honorable — Global Problem Solver. (LINK)

**Facebook Messaging Hackathon '20** Honourable — Swag. (LINK)

**Nasa Space Apps Challenge '19** Top 40 in Regional — Honorable. (LINK)

**COVID-19 Global Hackathon 2.0** Honorable (LINK)

PROBLEM SOLVING ACTIVITIES

- CSE CARNIVAL, GUB 18 & 19 - **Champion**
- ACM International Collegiate Programming Contest '18 & '19 - **Honorable**
- National Collegiate Programming Contest '20, MIST - **Honorable**
- IUPC SUST '19 - Ranked 27<sup>th</sup>
- Inter University Programming Contests: BUET '18, GUB '18, and RUET '19 - **Honorable**

RESEARCH PUBLICATION

- **Md. Asif Iqbal Fahim**, Feroza Naznin, Mohammad Ali Moni, and Dr. Md Zahidul Islam, "**Improved Transfer Learning Architecture to Classify Covid-19 Affected Chest X-Rays using Noisy Student Pre-training**," ICIEV & ICIVPR, JAPAN.
- Md. Rayhan Ahmed, **Md. Asif Iqbal Fahim**, A.K.M. Muzahidul Islam, Salekul Islam, Swakkhar Shatabda, **DOLG-Next: Deep Orthogonal Fusion of Local and Global Features with ConvNext for Biomedical Image Segmentation**. (Neurocomputing, Elsevier) IF: 5.779
- Ashifur Rahman; Md. Rakibul Islam; Umme Hany; **Md. Asif Iqbal Fahim**; Mohasina Jannat Moon; Lassaad K. Smirani; Shaik Hasane Ahammad; Md. Amzad Hossain; ahmed nabih zaki rashed; **Numerical Algorithm Deep Learning for A Novel Method To Detect COVID Patients Check (Under review)**.

VOLUNTARY EXPERIENCE

- **Volunteered Programming Instructor**, Green University Programming Club - Taught classes for 500+ students.
- **Academic Student Mentor**, Green University of Bangladesh - Helped and supported students in academic courses for 200+ students.
- Participated in **Inter University Parliamentary Debate Competition**.

SOFT SKILLS

Leadership, Ability to Work Under Pressure, Decision Making, Time Management, Adaptability, Teamwork, Creativity

LANGUAGES

English, Bengali ●●●●●

REFEREE

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