

SAZZAD HUSSAIN FARHAAN

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CAREER OBJECTIVE — An AI Developer seeking for PhD opportunities in the fields of Ethical AI for social good, with a significant experience in Machine Learning and a passion for contributing to cutting-edge research and practical applications, I am open to working in diverse domains aligned with the demands of the research objectives.

RESEARCH INTERESTS — I am passionate about leveraging Machine Learning to solve real-world challenges, particularly in multimodal learning, healthcare, and ethical AI. My key interests include integrating text, image, and video data for enhanced models (**Multimodal Learning**), advanced text analysis and language generation (**NLP**), image processing and medical image analysis (**Computer Vision**), creating realistic data with GANs and VAEs (**Generative AI**), early disease detection and diagnosis (**Healthcare AI**), and ensuring fairness and mitigating bias in AI systems (**Ethical AI**).

RECENT EXPERIENCE

Web and More Limited

AI Developer

May 2024 – Present

Full-time - Remote

Domain: Image Processing, OCR (Optical Character Recognition) Tasks, Image Denoising, Compression Algorithms.

Omdena, Toronto, Canada

Machine Learning Engineer

09/2023 – 03/2024

Part-time - Remote

Domain: Natural Language Processing (NLP), Web Scraping, Computer Vision, Medical Image Analysis.

Creative IT Institute, Dhaka, Bangladesh

Machine Learning Engineer

11/2021 – 02/2024

Full-time - Onsite

Domain: Computer Vision, NLP, Relational Agents, Generative AI, Python Programming, Agile.

Fellowship.AI, San Francisco, California, US

Data Scientist

10/2023 – 12/2023

Fellowship - Remote

Domain: Large Action Models, AI, NLP, Transformer Architectures, ETL Pipelines.

Choluuk Tech

Data Science & Digital Solutions Strategist

12/2017 – Present

Freelance - Consultant

Domain: Data Analysis, Audience Segmentation, Data-Driven Decision Making, Predictive Modeling.

Students Affair Office, ULAB

Undergraduate Teaching Assistant

11/2017 – 04/2019

Part-time - Onsite

Domain: Computer Science, Calculus, Programming Languages, Student Advising, Mentoring.

EDUCATION

Bachelor of Science in Computer Science and Engineering

University of Liberal Arts Bangladesh (ULAB)

2016 - 2020

CGPA: 3.33 on a scale of 4.00

(Thesis + Project): Natural Language Processing based Quality LMS for Students Evaluation and Engagement Metrics Calculation

RESEARCH EXPERIENCE

Publication

- Enhancing Student Engagement and Performance Evaluation: An Integrated Approach for Quality Learning Management.
- Advancing Fish Species Identification in Bangladesh: Deep Learning Approaches for Accurate Freshwater Fish Recognition.

Under Review

- Early-Stage Coronary Artery Disease (CAD) Prediction Using Coronary Angiogram for Stenosis Detection.
- Machine Learning-Based Early Detection of Diabetes in the Context of Endocrine Disorders.
- Bangla Conversational Chatbot to Diagnose and Aid ADHD Among Bangladeshi Adults.

PROJECTS

EquiJob - AI-Driven Bias Detection in Job Descriptions

[Link to Case Study](#)

Technologies: Word2Vec, GloVe, BERT, GPT, EDA, Selenium, BeautifulSoup

Developed a tool to detect and analyze gender bias in job descriptions using NLP techniques. Conducted feature engineering, model training, and validation.

Early Detection and Diagnosis of Alzheimer's Disease

[Open in Hugging Face](#)

Technologies: Nibabel, OpenCV, Scikit-Image, Keras, TensorFlow, PyTorch, CNN Transfer Learning, DeepChecks, Docker, FastAPI

Collaboratively developed a CNN for early detection of Alzheimer's disease using a dataset of 6,400 MRI images. Model achieved 99.22% accuracy. Deployed as a REST API using Docker and Streamlit, hosted on Hugging Face Spaces.

Travel Agent Large Action Model (LAM)

[Open in GitHub \[Private Repository\]](#)

Technologies: Amadeus API, OpenAI API, 8-bit Quantization, Few Shot Learning, Mistral LLM, Ollama LLM, LangChain, spaCy
Collaborated on a travel assistant application using Amadeus API and OpenAI API. Implemented a chatbot interface with Streamlit, and contributed to a Large-Action Model (LAM) pipeline. Enhanced skills in AI and NLP, and optimization techniques.

TECHNICAL COMPETENCIES

Programming Languages: Python, C++, Java, JavaScript, TypeScript

Libraries and Frameworks: TensorFlow, Keras, PyTorch, DLTK, OpenCV, Scikit-learn, Scikit-image, NumPy, SciPy, Tesseract OCR, Seaborn, Streamlit, LangChain, SpaCy, FastAI, React Native CLI, Hugging Face Transformers, librosa, torchaudio, Fairseq, OpenAI CLIP

Computer Vision: Edge detection, Histogram equalization, Morphological operations, Filtering techniques, Image denoising, Object detection, Image

segmentation, Optical character recognition (OCR)

Machine Learning & Deep Learning: Supervised learning, Unsupervised learning, CNNs, RNNs, LSTM, Transformer Architectures, Model training, Model evaluation, Parameter tuning, Multimodal learning, Attention mechanisms, Transfer learning

Tools & Platforms: Git, GitHub, DVC, DagsHub, Jupyter Notebooks, Docker, AWS Sagemaker, Roboflow, Data Annotation, LATEX

Web Scraping: Selenium, BeautifulSoup

SOFT SKILLS

Public Speaking, Team Work, Steadiness, Emotional Intelligence, Human Management, Mentoring

ACHIEVEMENTS

The Silver Standard Awardee, The Duke of Edinburgh's International Award: Achieved Silver Standard in skill, physical recreation, social welfare, and adventurous activities.

The Bronze Standard Awardee, The Duke of Edinburgh's International Award: Achieved Bronze Standard in skill, physical recreation, social welfare, and adventurous activities.

Vice Chancellor's Honors List Scholarship, Summer 2016: Honors List Scholarship awarded for outstanding academic performance in Computer Science and Engineering Department.

Half Scholarship (3000 USD) from ULAB: Completed the undergraduate degree.

NASA Space Apps Challenge 2018, Top 40, Regional Round: Project - Sustainable Multi-Source Energy Harvesting System: Solar Tracking and Raindrop Kinetic Conversion in a Hybrid Photovoltaic Array.

ULAB Techfest 2019, Champion, Idea Contest: Project - AI Integrated Wellness Tracker: A Comprehensive Mobile Application for Personalized Nutrient Monitoring, Caloric Balance, and Exercise Optimization.

ULAB Techfest 2019, 1st Runner-Up, Poster Display: Project - Acoustic Energy Harvesting in Urban Environments: Converting Noise Pollution into Sustainable Electric Power.

IJCCI 2019, Lead Volunteer: Led a team of more than 50 volunteers to successfully organize the International Joint Conference on Computational Intelligence 2019.

CO-CURRICULAR EXPERIENCE

Chairperson, IEEE CS ULAB Student Branch Chapter

04/2019 – 08/2020

Founding Chairperson of the Student Branch Chapter. Led the executive team for 25 collaborative and internal events.

Chairperson, IEEE ULAB Student Branch

03/2018 – 04/2019

Prepared the Branch Annual Plan. Organized and coordinated more than 20 flagship and international events for the student branch. Increased membership drive to 250%.

Secretary, IEEE CS ULAB Student Branch Chapter

07/2017 – 04/2018

Delegated activities from Regional Section to Student Branch. Increased membership from 10 to 70+ members.

Lead Publication, Team Spark, IEEE CS Bangladesh Chapter

07/2019 – 08/2020

Facilitated collaboration among 23 IEEE-affiliated universities in Bangladesh, fostering research groups for professional and student members to bridge the industry-academia gap.

REFEREES

Nafees Mansoor, PhD

Associate Professor, School of Science & Engineering
Computer Science & Engineering

University of Liberal Arts Bangladesh

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[Google Scholar Profile](#)

Prof. Muhammad Golam Kibria, PhD, SMIEEE

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