Tabassum Islam Mim

Phone: (+880) 1410823182 (Mobile) | Email address: ti707mim@gmail.com | LinkedIn: Link GitHub: Link Website: Link

Education & Training

Bachelor of Science in Computer Science and Engineering (BSc in CSE) | Daffodil International University | 14/06/2020 - 17/09/2024 | Dhaka, Bangladesh

Artificial Intelligence, Data Mining, Machine Learning, Programming and Problem Solving, Data Structures & Algorithms, Data Communication, Database Management System, Computer Network, Discrete Mathematics. Software Engineering, Object-Oriented Programming, Statistics, Linear Algebra.

Final grade: 3.53 out of 4.00 | **Level in EQF:** 6 | **Number of credits:** 148 | **Link:** https://daffodilvarsity.edu.bd/

Thesis

LRMC-DeepLabV3+: Multiclass Leaf Disease Semantic Segmentation Based On An Improved DeepLabV3+ Network

Proposed an improved DeepLabV3+ model for multiclass leaf disease semantic segmentation on 6 different plant leaves, achieving **97.34% accuracy** and **93.47% mIoU**. As the first author, I did the **methodology**, **coding**, and **implementation**, and contributed to manual data collection and annotation alongside my co-author.

Abstract | **Full Paper** | **Code**

Work experience

Paid Intern (ICT) | Government of the People's Republic of Bangladesh, Bridges Division | 31/03/2025 - 30/06/2025 | Dhaka, Bangladesh

During my internship, I supported government ICT operations by assisting with digital infrastructure and internal communication systems and handling diverse IT tasks.

Website: https://bridgesdivision.gov.bd/

Skills

Programming Languages | Python | Java | C | C++ | JavaScript

Research Field Skills | Computer Vision | Artificial Intelligence | Machine Learning | Deep Learning | Image Processing | Data Processing | Explainable AI (X-AI) | Retrieval-Augmented Generation (RAG)

Framework and Libraries | TensorFlow | PyTorch | Torchvision | Keras | Scikit-Learn | TIMM

Visualization | OpenCV | Pandas | NumPy | Matplotlib | Seaborn | PIL

Explainable AI (XAI) | Grad-CAM | SHAP | LIME

Environment and Tools | Jupyter Notebook | Conda | VS Code | Google Colab | Kaggle Notebook | Github | Git

Projects

BrainT_XAI_RAG

Built an explainable **Vision AI pipeline** for brain tumor detection using custom EfficientNetB3, **XAI (Grad-CAM),** and **Visual RAG**. The current achieved accuracy is 91.51% and it can give AI-based vision model analysis explanations. Unlike traditional CNN-only approaches, this project goes beyond classification by explaining why the model makes a decision, using both visual evidence (Grad-CAM) and retrieved medical knowledge.

https://github.com/Mimimomo001/BrainT_X-AI_RAG.git

Dental Segmentation using FastViT

Performing semantic segmentation on dental caries using the FasterViT (Faster Vision Transformer) architecture, a type of Vision Transformer (ViT) that is more rapid and precise based on various computer vision benchmarks. The suggested model produced impressive results with a Pixel Accuracy rate of 92.50% and mIoU of 79.25% (0.7925) with the customized HAT layers.

https://github.com/Mimimomo001/Dental-Semantic-Segmentation-using-FastViT.git

Explaining Breast Cancer Diagnosis Predictions with SHAP

Applied **SHAP** to interpret a **breast cancer classification** model, analyzing **feature importance** and generating visualizations.

https://github.com/Mimimomo001/Explaining-Breast-Cancer-Diagnosis-Predictions-with-SHAP.git

Similarity Search App Using Retrieval-Augmented Generation (RAG)

Built a **Retrieval-Augmented Generation (RAG)** application using **Streamlit**, **ChromaDB**, and **OpenAI API**, enabling similarity search over documents and citation-aware question answering.

https://github.com/Mimimomo001/Similarity-Search-App-Using-Retrieval-Augmented-Generation--RAG-.git

Certifications

Creating AI Applications using Retrieval-Augmented Generation (RAG) | Codecademy

Learned how to give LLM the powers of retrieval with RAG, and build a RAG app with Streamlit and ChromaDB.

Credential

Learn Explainable AI | Codecademy

Learned how to use explainable AI techniques, including permutation importance, PDP/ICE plots, SHAP, and LIME.

Credential

Generative AI on AWS: Getting Started | Codecademy

Learned about AWS GenAI services, foundational models, and infrastructure for developing and deploying GenAI solutions seamlessly.

Credential

Learn Advanced Algorithms and Data Structures with Python Course | Codecademy

Learned advanced data structures and algorithms in Python, including deques, string searching, tree structures, balanced BSTs, and Hamiltonian algorithms.

Credential

Language Skills

Mother tongue(s): **Bengali**

	Understanding		Speaking		Writing
	Listening	Reading	Spoken production	Spoken interaction	
English	C2	C1	C1	C1	B2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user

Extracurriculars & Awards

Erasmus+ KA107 Scholar - 2022

Completed one semester at Istanbul Kültür University, Computer Engineering faculty, with international academic experience, where I obtained 34 ECTS.

Certificate

Member - Computer & Programming Club (CPC, Daffodil International University) - 2021-2024

Learned to code in a wide range of topics, including image data, computer vision, AI, image processing, segmentation, detection, classification, deep learning, machine learning, Graph Neural Network, etc.

https://cpc.daffodilvarsity.edu.bd/

Presenter at IEEE CS BDC Summer Symposium - 2023

Participated by submitting and presenting an abstract on Impacts of Social Media Marketing on Socio-Economic Development of Bangladeshi Women.

Certificate

Second Runner Up in Cyber Security Awareness Project - 2023

Did a project to showcase how can various cyber attack such as ransomware, phishing etc. affect people.