ASHRAF-UL-ALAM

25/2, Nabakalash, Matlabganj, Matlab South, Chandpur-3640, Bangladesh
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EDUCATION

Rajshahi University of Engineering & Technology (RUET), Rajshahi, Bangladesh 2019-2024
Bachelor of Science in Computer Science and Engineering *CGPA: 3.44 out of 4.00*

Dhaka Residential Model College, Dhaka, Bangladesh 2018
Higher Secondary School Certificate, Board: Dhaka *GPA: 5.00 out of 5.00*

Matlabgonj J.B. Pilot High School, Chandpur, Bangladesh 2016
Secondary School Certificate, Board: Cumilla *GPA: 5.00 out of 5.00*

PUBLICATIONS

Optic Disc and Cup Segmentation via Enhanced U-Net with Residual and Attention Mechanisms
ICEEICT 2024 — IEEE Xplore DOI: 10.1109/ICEEICT62016.2024.10534436
- Evaluated various pretrained models as U-Net backbones, validated across Drishti-GS, REFUGE, and RIM-ONE-R3 datasets, and finally, developed an enhanced U-Net with residual and attention mechanisms.
- **Award Nomination:** Nominated for Best Poster Award at ICEEICT 2024.

BanglaOngko : A New Dataset for Accurate Bengali Mathematical Expression Detection Utilizing YOLOv8 Architecture
BIM 2023 — Taylor and Francis
- Created and annotated the BanglaOngko dataset with Roboflow, developed an efficient algorithm integrating statistical concepts to accurately localize handwritten Bengali mathematical expressions, addressing YOLOv8's unsorted bounding box challenges.

Advancing Ophthalmology through Transfer Learning and Channel-wise Attention for Retinal Disease Classification
ICEEICT 2024 — IEEE Xplore DOI: 10.1109/ICEEICT62016.2024.10534342
- Developed a hybrid model merging EfficientNetB0 and InceptionV3 with channel-wise attention, improving discriminative ability by dynamically adjusting attention across channels, outperforming state-of-the-art models.

UNDERGRADUATE THESIS

KD-UDA: Knowledge Distillation-based Unsupervised Domain Adaptation for Improved Medical Image Segmentation
Python, Tensorflow, Keras, CNN, Transfer Learning, U-Net
- Developed the KD-UDA framework, using Knowledge Distillation to enhance segmentation model performance on diverse medical imaging datasets without labeled data from new domains, significantly improving performances for both 2D retinal fundus images and 3D MRI data (BraTS2021).

PROJECTS

github.com/ashraf-ul-alam-amit

Cycle Thief Detection from Live CCTV Footage using YOLOv5 and DeepSORT | *Python, YOLOv5, DeepSORT, KD-Tree, Face_Matcher*
- Developed a real-time cycle thief detection system using YOLOv5, DeepSORT, KD-Tree algorithm, and Face_Matcher for detection and tracking from live CCTV footage.

Chronic Kidney Disease Prediction using Machine Learning | *Python, Flask API, HTML, CSS*
- Performed thorough exploratory data analysis and feature engineering to enhance training accuracy of an ML model, deployed via Flask API, and designed an intuitive webpage with HTML/CSS for user-friendly CKD prediction.

Maternal and Child Health Care | *HTML, CSS, PHP, MySQL, Android Studio, Java, XML, Firebase Database*
- Developed a responsive Maternal and Child Health Care website with due date calculation, immunization schedules, personalized SMS/email notifications, and a query posting feature to support expecting mothers.
- Building on this, a mobile app was developed using Android Studio and Firebase that offers the same suite of features.

e-Doctor's Appointment | *Android Studio, Java, XML, Firebase Database*
- Developed a mobile application to facilitate seamless scheduling and management of medical appointments.

TECHNICAL SKILLS AND INTERESTS

Research Areas	:	Computer Vision, Domain Adaptation, Object Detection, NLP, LLM, Transfer & Conventional Learning
Programming	:	Python, C, C++, Java, PHP
Frameworks	:	TensorFlow, Scikit-Learn, Keras, OpenCV, PyTorch, Bootstrap
Web & Databases	:	HTML, CSS, PHP, MySQL
Technologies	:	Flask, Android Studio, LaTeX, Git

REFERENCES

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