Curriculum Vitae
PRAMIT DUTTA

Email: pdutta@uoguelph.ca Website: Portfolio Google Scholar: Scholar ID
LinkedIn: LinkedIn Profile ResearchGate: My Account Github: My Profile

Academic Credentials

Master of Applied Science in Computer Engineering Candidate

Affiliation with CSAI (Collaborative Specialization in Artificial Intelligence)

Current CGPA: 4.00/4.00 (After 2nd Semester)

School of Engineering, University of Guelph
Guelph, Ontario, Canada September 2024- Present

Bachelor of Science (Engineering)

Department of Electronics and Telecommunication Engineering

CGPA:3.81/4.00

Chittagong University of Engineering & Technology (CUET)
Chittagong, Bangladesh January, 2018- March, 2023

Research Experience

Graduate Research Assistant
AI Enabled Medical Imaging Lab, University of Guelph
September 2024- Present
Supervisor: *Dr. Eranga Ukwatta*
Description: I focus on developing multimodal learning systems that combine radiological images with clinical context to support medical diagnosis. My work takes a model-driven approach, emphasizing alignment between model behavior and clinical tasks. I also explore vision-language models, which are often trained using self-supervised objectives, to build systems that learn from image-text relationships without requiring large amounts of manual labeling.

- Built multimodal pipelines that integrate imaging and clinical text for diagnostic applications
- Used model-driven reasoning to guide training objectives and evaluation strategies
- Models will be tested based on evaluations from human experts to assess clinical relevance and output quality

Undergraduate Thesis
Chittagong University of Engineering & Technology;
December 2021- March 2023
Supervisor: Dr. Md. Azad Hossain; Co-Supervisor: Khaleda Akther Sathi

Description: I developed a hybrid method for retinal disease classification by combining convolutional and attention-based architectures, focusing on aligning texture and shape-based features in retinal imaging.

- Designed and tested a deep learning framework for multi-class retinal disease detection
- Evaluated performance on fundus image datasets using standard metrics

Publication

Sl. No	Title	URL
01.	Self-Supervised Learning for Retinal Disease Classification: Reducing Annotation Dependency with Transformation-Based Pretext Learning with Limited Labels	[Check Out The Paper]
02.	Conv-ViT: A Convolution and Vision Transformer based Hybrid Feature Extraction Method to Detect Retinal Disease Detection	[Check Out The Paper]
03.	Identifying Counterfeit Products using Blockchain Technology in Supply Chain System	[Check Out The Paper]
04.	COVID-19 Detection using Transfer Learning with Convolutional Neural Network	[Check Out The Paper]
05.	Optimization of Temperature and Relative Humidity in an Automatic Egg Incubator Using Mamdani Fuzzy Inference System	[Check Out The Paper]
06.	Multi-Classification of Brain Tumour Images Using Transfer Learning Based Deep Neural Network	[Check Out The Paper]

Projects

1. VLM in Radiology Evaluation **Check It Out**

- Evaluation of Vision-Language Models for medical image understanding

2. Conv-ViT framework for Hybrid Feature Extraction **Check It Out**

- A triple stream feature extractor which fuse the feature

3. SSL with Transformation Prediction based Pretext Learning **Check It Out**

- A SSL approach which use Transformation prediction as Pretext task.

4. DeepGreen: Weed and Crop Detection and Localization **Check It Out**

- A YOLOv10 based framework for weed and crop detection and localization

Technical Skills

Programming Language: Python, MATLAB, LaTex**,** C

Framework: Pytorch, Hugging Face, Tensorflow

Engineering Software: Simulink, Fuzzy Logic Toolbox

Teaching Experience

Graduate Teaching Assistant
ENGG*3390- Signal Processing
University of Guelph September 2024- December 2024
Description: As a Graduate Teaching Assistant in Signal Processing (Fall 2024), I was responsible for conducting laboratory sessions to help students grasp the fundamental concepts in signal processing. My role also involved grading assignments and invigilating exams. Additionally, I collaborated with the course instructor and fellow GTAs to design practical lab exercises that aligned with the course objectives.

Certification

1. Machine Learning an online non-credit course authorized by Stanford University and offered through Coursera **[External Link]**
2. DeepLearning.AI TensorFlow Developer Professional Certificate **[External Link]**
3. AI For Medicine Specialization Certificate authorized by DeepLearning.AI and offered through Coursera **[External Link]**
4. Internet of Things provided by Planeter Ltd. **[External Link]**

References

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