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Professional Summary

Computer Science graduate with an interest in AI Engineering and software development with expertise in machine learning, AI system maintenance, and MLOps, specializing in end-to-end model deployment, performance monitoring, and iterative improvement, along with both frontend, backend, and mobile app development. Proven experience in federated learning, model retraining, and scalable AI infrastructure. Adept at research, model deployment, and end-to-end application development. Passionate about building intelligent systems with real-world impact. Published and ongoing work in federated learning, medical AI, and NLP.

Education

BSc in Computer Science and Engineering – Brac University, Bangladesh	2021 – 2025
◦ CGPA: 3.54/4.00	
◦ Thesis: Involutional Neural Network for Federated Plant Disease Classification	
◦ Courses: Machine Learning, Computer Vision, Web Technologies, Data Structure and Algorithms	

Work Experience

Co-Founder/Software Engineer Owlreaders (not longer active)	2024 – 2025
◦ Built and designed end to end saas platform with an Analytics dashboard	
◦ Used Django and Django-Rest-Framework for API integration and Backend development. Used HTML, CSS, along with async JS and React JS for the frontend, and Python libraries for data visualization.	
◦ Implemented Ollama for LLM integration and implemented HuggingFace open-source book recommendation system for better user experience.	
Part Time Web Developer – Robotics Club of Brac University	2024 – 2025
◦ Developed and maintained the club website	
◦ Created admin panel, recruitment and registration portal using Django web framework, Vanilla JS, and React JS	
◦ Created and maintained the Competition website with registration websites with Django web framework and Basic HTML, CSS and JavaScript.	
Part Time AI Engineer – BracU Duburi	2023 – 2024
◦ Created custom image dataset with annotations for image classification and detection using OpenCV and CVAT	
◦ Build custom lightweight neural network models for Image classification and detection, suitable for running on edge devices	
◦ Used custom models as backbone model for various YOLO architectures, ensuring smooth autonomous run of the rover.	

Projects

Federated Plant Disease Classifier (Thesis) – Involution, TensorFlow, Federated Learning	2025
◦ Designed a novel involutional neural network model for decentralized plant disease diagnosis.	
◦ Used Federated Averaging to protect farm data privacy; paper under review in HCC journal.	
Plant Disease Detection App – Django, React.js, TensorFlow	2025
◦ Full-stack web app to identify plant diseases using MobileNet-based CNNs.	
◦ Live image upload, preprocessing, and server-side inference; 97% accuracy achieved.	
Resume Parser & JD Matcher – Python, BERT, FastAPI	2025
◦ Built NLP pipeline for extracting experience and skills from resumes using Named Entity Recognition.	
◦ Matched job descriptions using semantic vector similarity (BERT embeddings).	
Chest Disease Detection (Research) – CNN, X-ray, Grad-CAM	2024

- Trained CNN on ChestX-ray14 dataset to detect pneumonia, TB, and other diseases.
- Implemented Grad-CAM for model interpretability; manuscript in preparation.

Real-Time Object Detection System – YOLOv7, OpenCV

2024

- Trained YOLOv7 on custom dataset for safety gear detection in industrial sites.
- Deployed with OpenCV for real-time inference.

Certifications

- Deep Learning Specialization – Coursera (Audited)
- Mathematics for ML and Data Science Specialization – Coursera (Audited)
- IBM Full Stack JavaScript Developer – Coursera (Audited)

Skills

Languages: Python, JavaScript, C, SQL, HTML, CSS**Frameworks:** Django, React.js, FastAPI, LangChain, TensorFlow, PyTorch**Libraries:** OpenCV, Scikit-learn, Keras, NumPy, Pandas**Dev Tools:** Git, Docker, Heroku, Streamlit, Postman, Jupyter**Concepts:** CNNs, Federated Learning, Transfer Learning, NLP, XAI, REST API

Languages

English (Fluent), Bengali (Native)