MD Rafiul Islam

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Career Summary:

- *Architected and developed end-to-end computer vision systems for major enterprise clients like Unilever, KDS, and BAT, focusing on industrial safety, business intelligence, and security.*
- *Engineered high-performance models for real-time edge AI deployment, achieving >98% accuracy in industrial recognition tasks and <50ms latency in high-speed detection.*
- *Applied advanced data analysis in Signal Processing and Image Processing using machine learning to contribute to impactful research findings.*
- *Published high-impact research findings in reputed Q1 journals, contributing to the academic discourse in AI and healthcare.*

Key Proficiencies:

- Advanced Data Analysis
- Deep Learning & Computer Vision model development (YOLO, CNNs)
- Data Annotation & Management
- Signal & Image Processing
- Research & Development
- Real-Time Video Analytics
- Edge AI Deployment (NVIDIA Jetson)
- Object Detection & Tracking
- Full-Stack AI Project Development
- API Integration & Backend Development
- Client-Side PoC Demonstration

Work Experience:

Junior Machine Learning Engineer, Bondstein Technologies LTD. (Feb '25 to Present)

- Architected and developed end-to-end computer vision systems for major clients like Unilever and BAT, focusing on industrial safety, security, and process automation.
- Engineered high-performance models for real-time applications, achieving >98% accuracy in container recognition and <50ms latency in counterfeit detection.
- Pioneered a novel solution for Bangla Automatic Number Plate Recognition (ANPR), achieving ~94% accuracy through custom model R&D.
- Developed innovative business intelligence tools, such as a "Customer-Product Interaction" tracker for retail analytics.
- Led internal R&D on emerging technologies, including monocular depth estimation for crowd analysis and LLMs for chatbot development.
- Conducted on-site client visits for system deployment, camera calibration, and PoC demonstrations.

Research Assistant, 4IR Research Cell, Daffodil International University (Jan'24 to Feb'25)

- Develop and implement data analysis techniques in **Signal Processing**, **Spectrogram Analysis**, and **Image Processing** using **machine learning** and **deep learning** approaches.
- Contribute to research & presentations, highlighting machine learning in image analysis.
- Designed and implemented data-driven models leveraging deep learning architectures, such as **a hybrid ViT-CNN model**, to improve classification accuracy.
- Collect, process, and analyze data to support research in signal processing and image analysis.

Data Analyst Intern (Remote), Pantech Prolabs India Pvt Ltd. (Apr'24 to Jul'24)
- Optimized data analysis processes using innovative technologies.
- Collaborated with a team to improve data analysis efficiency.
- Ensured data integrity for accurate insights and decision-making.

Academic Qualification:
- B.Sc. in CSE from Daffodil International University (DIU) with a CGPA of 3.52 out of 4.00 in 2024.
- HSC in Science from BAF Shaheen School & College with a GPA of 4.45 out of 5.00 in 2018.
- SSC in Science from Tamirul Millat Kamil Madrasha with a GPA of 5.00 out of 5.00 in 2016.

Publications:
- Published 'Mental Health Diagnosis from Voice Data Using Convolutional Neural Networks and Vision Transformers' in the Journal of Voice (Q1) (2024).

Thesis & Project:
- Created an AI tool for mental stability detection via voice analysis. (Final Year Thesis)
- Designed 'BlockMedix-AI', a decentralized healthcare system with real-time diagnosis.
- Applied machine learning to predict physical activity and enhance health monitoring.
- Developed 'Smart Dining', an ML-based solution for caloric info of food in restaurants.
- Used computer vision for skin disease diagnosis, focusing on skin cancer.

Professional License and Certification:
- Completed 'IBM Certified Data Science - What is Data Science?' certification on Coursera.
- Completed 'IBM Certified Data Science - Tools for Data Science?' certification on Coursera.
- Obtained 'Generative AI Productivity Skills' certification from Microsoft and LinkedIn.
- Certified in 'Brain-Computer Interface (BCI)' from Pantech.AI Academy.

Co-Curricular Activities:
- Executive Member, Computer Programming Club at DIU, organizing programming events.
- Vice President, Science Club at BAF Shaheen College (2017–2018), leading STEM activities.

Volunteering Activities:

Red Crescent Youth Volunteer, Bangladesh Red Crescent Society (Feb'21 to Aug'22)
- Assisted in organizing and executing COVID-19 vaccination drives across various regions.
- Contributed to raising awareness about vaccination benefits in local communities.

Soft Skill: Teamwork, Convincing, Inspiring, Influencing, Negotiation, & Leadership skills

Technical Skills:
- **Programming Languages:** Python, SQL.
- **Computer Vision:** Object Detection (YOLO), Pose Estimation (MediaPipe), OCR (PaddleOCR), Face Recognition (InsightFace), Object Tracking (DeepSORT, ByteTrack), OpenCV
- **Machine Learning:** Scikit-learn, TensorFlow, Keras, and PyTorch.
- **Data Analysis & Visualization:** Pandas, NumPy, Matplotlib, Seaborn, and Excel.
- **MLOps & Deployment:** Edge AI (NVIDIA Jetson), Docker, FastAPI, RTSP Streams, Streamlit
- **Version Control:** Git, GitLab
- **Office Tools:** Proficient in MS Word, Excel, and PowerPoint.

Languages:
Bengali: Native
English: Fluent — IELTS Academic Overall Band 6.5 (Listening 6.5, Reading 7.0, Writing 6.0, Speaking 6.5)

References:
Dr. Md. Taimur Ahad (PhD), Associate Prof. & Associate Head of Department, CSE, Daffodil International University, **Phone:** (+88) 01701330009, **Email:** taimurahad.cse@diu.edu.bd