Arowa Yasmeen

yasmeenarowa@gmail.com — GitHub — LinkedIn — Google Scholar

EDUCATION

The University of Texas at Dallas, *Texas, United States of America* Fall 2022 – Present
PhD in Computer Science
Relevant Coursework: Artificial Intelligence, Machine Learning, Natural Language Processing, Design and Analysis of Algorithms, Database Design, Recent Advances in Computing: Large Language Models, Developing secure Cloud, Edge, IoT systems, Statistical Methods for Data Science

Islamic University of Technology, *Gazipur, Bangladesh* Class of 2020
BSc in Computer Science and Engineering

PROFESSIONAL EXPERIENCE

AI Engineer Feb 2021 – May 2022
Intelligent Machines Ltd — Dhaka, Bangladesh

- Developed and deployed **custom Optical Character Recognition (OCR) models** achieving **92%+ accuracy** for multiple languages (Bengali, English, and Khmer) processing **1M+ documents** using CNN architectures to build Know Your Customer (KYC) systems.
- Implemented and optimized **Keyword Spotting (KWS)** and **Automatic Speech Recognition (ASR)** models using LSTM networks for multilingual audio, enabling KPI analytics that improved employee performance by **40%+**.
- Established ML documentation standards and supervised **Ethical AI guidelines** for model explainability and regulatory compliance.

RESEARCH PUBLICATIONS

- Recent Research Progress on Ground-to-Air Vision-Based Anti-UAV Detection and Tracking Methodologies: A Review — *Drones, Vol. 9, Issue 1, 2025*
- Uncovering Structure Performance Relationships in Organic Photovoltaics: Interpretable Machine Learning Model for Predicting the Power Conversion Efficiency — *IEEE Journal of Photovoltaics, 2025*
- LLM-Sentry: A Model-Agnostic Human-in-the-Loop Framework for Securing Large Language Models — *IEEE TPS-ISA 2024*
- CSVC-Net: Code-Switched Voice Command Classification using Deep CNN-LSTM Network - *ICIEV-icIVPR 2021*

SKILLS

Programming Language: Python
ML/DL Frameworks: PyTorch, Scikit-learn, OpenCV
Libraries: NumPy, Pandas, Matplotlib, Seaborn
Tools: Docker, Git, Weights & Biases
Specialties: Computer Vision, LLM Security, OCR, Multi-Object Tracking

ACADEMIC PROJECTS

- **ResearchAssistant** - Built a research writing assistant that supports literature retrieval, research gap analysis, summarization, writing generation, and LaTeX paper draft generation.
- **Intrusion Attack Detection** - Implemented an Intrusion Attack Detection system using an ensemble of ML methods for a cloud-based network of IoT devices using the NSL-KDD Dataset.
- **Multiple Object Tracking System** — Implemented DETR for object detection and DeepSORT for real-time pedestrian tracking in video streams.
- **Voice Command Classification** — Built CNN-LSTM models for multilingual voice commands to control browser interfaces.

REFERENCES

Dr. Ovidiu Daescu, Department Head, Computer Science, UT Dallas daescu@utdallas.edu