Arowa Yasmeen

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SUMMARY

PhD Candidate in Computer Science at UT Dallas, specializing in AI for computer vision, medical imaging, and UAV frameworks. Published researcher with experience deploying AI systems built with Computer Vision and Speech Recognition capabilities. Skilled in bridging advanced research with real-world AI engineering applications.

EDUCATION

The University of Texas at Dallas, *Texas, USA* Aug 2022 – July 2027 (Expected)
PhD in Computer Science
Relevant Coursework: AI, ML, NLP, Big Data Analytics, Large Language Models

Islamic University of Technology, *Gazipur, Bangladesh* Class of 2020
BSc in Computer Science and Engineering
Relevant Coursework: Pattern Recognition, Digital Image Processing, Graph Theory

PROFESSIONAL EXPERIENCE

Graduate Research Assistant Aug 2022 – Present
UT Dallas, Geometric & Biomedical Computing Lab

- Developing a **Computer-Aided Diagnosis System** for metastatic lung nodules in patients with Osteosarcoma, improving early cancer detection by automating segmentation and malignancy prediction.
- Building a **Donor-Recipient Assessment framework** for lung transplantation, leveraging AI to enhance survival prediction and matching accuracy.
- Designing a **transportation framework to enable commercial UAV operations** in compliance with NASA and FAA airspace regulations, integrating UAV flight path-planning and airspace infrastructure design.

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

- Developed and deployed **custom OCR models**, achieving **92% accuracy** for multiple languages (Bengali, English, and Khmer), processing **100,000 documents** using CNN architectures to build KYC systems.
- Implemented and optimized **speech recognition and keyword spotting models** with LSTM networks for multilingual audio, driving a **40% improvement in employee KPIs**.
- Authored **ML documentation standards** and introduced **ethical AI practices** to ensure explainability and compliance with regulators.

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, C, C++, Java, SQL, HTML/CSS, JavaScript
ML/DL Frameworks: PyTorch, TensorFlow, Scikit-learn, Hugging Face, OpenCV
Libraries: NumPy, Pandas, Matplotlib, Seaborn
Tools: Docker, Git, Weights & Biases, Azure ML, PySpark
Specialties: Computer Vision, Medical Imaging, OCR, Multi-Object Tracking, LLM Security, Speech Recognition, NLP