

Md Arif Shahriar

 Google Scholar

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 GitHub

Research Interests

Eye Tracking, Computer Vision, Machine Learning, Diffusion models, Large Language Models.

Education

Ph.D. Texas State University

Ph.D. in Computer Science — Information Management

San Marcos, TX, USA

Fall 2026 – Present

B.Sc Begum Rokeya University, Rangpur

B.Sc. in Computer Science and Engineering

Obtained CGPA: 3.50 / 4.00

Rangpur-5404, Bangladesh

Year of Graduation: 2023

Work Experience

Software Engineer (AI) – TechnoNext Software Limited, Dhaka, Bangladesh

October 2025 – July 2026

- **Foodi Recommendation System [LIVE]:** Led a heterogeneous GNN recommender with **GraphSAGE**, **multi-head attention**, **BPR + InfoNCE**, achieving **25% HR@10**; deployed with **gRPC**, **FAISS**, **Redis**, and a real-time feature pipeline.
- **Foodi Order ETA Predictor [LIVE]:** Led a **LightGBM**-based order preparation-time predictor achieving **3.32 min MAE**, with a statistical fallback; optimized gRPC serving for **~3× throughput**.

AI Engineer – Next Solution Lab, Dhaka, Bangladesh

Aug 2023 – September 2025

- **Virtual Try-On (VTON):** Developed a **Diffusion**-based **virtual try-on** system with texture-preserving and pose-guided modules, improving realism and alignment while reducing **inference time by 54%** for cross-category garments.
- **Research Assistant Agent:** Designed and deployed an AI research assistant powered by **LLaMA 3** to automate literature review and summarization.

Publications

Published Research Papers:

Zasim Uddin, M., Arif Shahriar, M., Schuller, B. W., Nadim Mahamood, M., Atiqur Rahman Ahad, M. (2025). Skin disease diagnosis using decision and feature level fusion of deep features. *Frontiers in Digital Health*, 7, 1478688. [🔗](#)

September 2025

Uddin, M. Z., Shahriar, M. A., Mahamood, M. N., Alnajjar, F., Pramanik, M. I., Ahad, M. A. R. (2024). Deep learning with image-based autism spectrum disorder analysis: A systematic review. *Engineering Applications of Artificial Intelligence*, 127, 107185. [🔗](#)

January 2024

Mahamood, M. N., Uddin, M. Z., Shahriar, M. A., Alnajjar, F., Ahad, M. A. R. (2023, October). Autism Spectrum Disorder Classification via Local and Global Feature Representation of Facial Image. In 2023 IEEE International Conference on Systems, Man, and Cybernetics (SMC) (pp. 1892-1897). IEEE. [🔗](#)

October 2023

Shahriar, M. A., Uddin, M. Z., Rafi, M. R. I., Akter, M. F., Alnajjar, F., Ahad, M. A. R. (2026). Autism Action Dataset (AAD): A Comprehensive Video Benchmark for ASD Behavior Recognition Using Deep Learning. *IEEE Access*. [🔗](#)

April 2026

Under Review Papers:

Status of gait-based feature analysis for diagnosis, classification, and therapy in autism spectrum disorder

Journal: IEEE Transactions on Cognitive and Developmental Systems (Under Review)



Next-VTON: A Diffusion-Based Cross-Category Adapted Virtual Try-On with Multi-Stage Processing and Enhanced Feature Learning

Journal: IEEE access (Under Review)

Achievements & Participation

- International English Language Testing System (**IELTS**) – Overall Band Score: **7.0**
- Participated in **ICPC Dhaka Regional 2018** (Hosted by Daffodil International University) from Begum Rokeya University, Rangpur.
- Participated in **ICPC Dhaka regional 2019** (Hosted by Southeast University) from Begum Rokeya University, Rangpur.
- Advancing Data Science in Bangladesh (Somikoron AI)
- Seminar on Artificial Intelligence (Begum Rokeya University, Rangpur)

Technologies

Programming Languages: Python, C, C++, Java

AI/ML Frameworks: PyTorch, TensorFlow, Keras

LLM & Agentic AI Tools: LangChain, CrewAI, OpenAI API, HuggingFace Transformers

Generative AI & Diffusion Models: Stable Diffusion, DDPM (Denoising Diffusion Probabilistic Models)

Web Development & APIs: JavaScript, FastAPI

Databases: MySQL, MongoDB, PostgreSQL

DevOps & Tools: Docker, Git

Research & Projects

Classification of Skin lesions using FLF and DLF methods:

[github link](#)

- Built a deep learning model using feature-level and decision-level fusion for accurate skin lesion classification.
- **Tools Used:** Python, Vision Transformer, CNNs

Action Recognition for Autism Spectrum Disorder

[github link](#)

- Designed a deep learning framework by using CNN-LSTM, 3D CNN, and ViViT for early action recognition in ASD.
- **Tools Used:** Python, CNNs

OCR-based-Bangla-RAG-chatbot

[github link](#)

- Developed an LLM-powered chatbot using LangChain and OCR to answer different questions from bangla PDF documents.
- **Tools Used:** Python, LangChain, gemma3, Surya OCR

Product-competitor-analysis

[github link](#)

- Created a multi-agent AI framework with CrewAI to coordinate agent collaboration and extract competitor insights of a product.
- **Tools Used:** Python, Crew AI, LLaMA 3.2

Resume Categorization to help HR:

[github link](#)

- Developed a machine learning pipeline to automatically categorize resumes by domain (e.g., Sales, Marketing, Engineering) to streamline recruitment workflows.
- **Tools Used:** Python, BERT, KNN, Decision Tree, RF.

Online Courses & Certifications

Natural Language Processing with Classification and Vector Spaces - Coursera (Stanford University, DeepLearning.AI)

[link](#) 

Generative AI with Large Language Models - Coursera (aws, DeepLearning.AI)

[link](#) 

Fundamentals of AI Agents Using RAG and LangChain - Coursera (IBM)

[link](#) 

Machine Learning in Production - Coursera (DeepLearning.AI)

[link](#) 

Introduction to DevOps - Coursera (IBM)

[link](#) 