



# ARIF HUSSAIN

AI / ML DEVELOPER · COMPUTER VISION ENGINEER

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AI/ML Developer and Mathematician specializing in Computer Vision and Deep Learning, with a proven record of turning complex mathematical concepts into deployment-ready AI applications. Top-8% competitive ML finisher experienced in building scalable computer vision pipelines, vision transformers, and agentic AI systems with LangChain, LangGraph, and MCP — end-to-end from architecture to deployment.

## TECHNICAL SKILLS

**Languages:** Python, C++, MATLAB

**Deep Learning & CV:** CNNs, Vision Transformers (ViT), Vision Language Models, RNN, LSTM, GRU, Transfer Learning, Image Classification, Object Detection, Face Recognition & Clustering, Feature Extraction

**Agentic AI & NLP:** LangChain, LangGraph, MCP (Model Context Protocol), Vector Databases, RAG, Multilingual NLP Preprocessing

**Machine Learning:** Scikit-Learn, Regression, Classification, Supervised & Unsupervised Learning, Mathematical Modeling, Numerical Analysis

**Frameworks:** TensorFlow, PyTorch, Keras, OpenCV, NumPy, Pandas, Matplotlib, Streamlit

**Deployment & Tools:** FastAPI, Docker, SQL, Git, GitHub, VS Code, PyCharm

## EDUCATION

**Shahjalal University of Science & Technology (SUST)**  
**B.Sc. in Mathematics**

Sylhet, Bangladesh · Ongoing (3rd Year)

Focus: Linear Algebra, Calculus, Probability, Differential Geometry, Numerical Analysis

## ACHIEVEMENTS

- Top 8% (12/151) finish in a competitive Kaggle ML challenge; multiple top-15% placements
- Achieved up to 98.5% accuracy across deployed computer vision models
- Maintain 18+ public GitHub repositories spanning ML, CV, and web applications
- Mentored 50+ university students in ML and computer vision

## KAGGLE COMPETITIONS

**PoliMemeDecode** — 12/151 (Top 8%)

Deep-learning classification of political context from multimodal meme data.

**Shobdotori** — Bangla Dialect Transcription — 4/63 (Top 14%)

NLP normalization models for diverse regional Bangla dialects.

**MemeDecode** — Humor Classification — 35/64

Multi-label architectures categorizing abstract web content.

**AI-FICATION** — Bengali STEM Translation — Participant

Neural translation of technical Bengali material into English STEM content.

## EXPERIENCE

**Founder** — **Memora AI**

2025 - Present

- Architected and deployed an AI-powered photo-intelligence platform that automatically detects, clusters, and organizes photos by people and events for large group occasions.
- Built robust computer vision pipelines using facial feature extraction and similarity-based clustering, optimized for large image collections.
- Overcame real-world deployment challenges including extreme pose variation, erratic lighting, and diverse image quality; managed the private beta rollout.

**Mentor** — **SUST Data Science Club**

2024 - Present

- Mentor 50+ students in Python, NumPy, Pandas, Matplotlib, CNNs, and applied deep learning through hands-on sessions.

## PROJECTS

**GuardianNet AI** — EWU Hackathon · Computer Vision

- Built a real-time hazard-detection safety dashboard triggering automated alerts on object detection, integrating ViT and pre-trained vision models for fast, high-fidelity classification.
- Designed a three-tier response protocol with medical logistics integration.

**Nexus Style** — Agentic AI Commerce Engine

- Built a hyper-contextual e-commerce concierge chatbot with LangChain and LangGraph that adapts recommendations to localized weather, geolocation, and user attributes; deployed on FastAPI.

**Real-Time Object Detection & Alert System** — Deep Learning

- Developed a real-time detection system with pre-trained vision models for fast inference and alert mechanisms triggered by detected objects.

**Cat vs Dog Image Classifier** — CNN from Scratch

- Built and trained a convolutional neural network from scratch with data augmentation, achieving high validation accuracy on unseen images.

**Movie Recommendation System** — ML · Streamlit

- Built a content-based recommender using similarity matching over feature vectors, served through an interactive Streamlit interface.

**WhatsApp Chat Analyzer** — Data Analytics

- Engineered a chat-analytics tool extracting activity timelines, user statistics, and word/emoji usage with Pandas and Matplotlib visualizations.

**Additional Projects** — [github.com/arif124713](https://github.com/arif124713)

- Email Spam Classifier (NLP), Laptop Price Prediction (regression), and IPL Win Predictor (Scikit-Learn + Streamlit), among 18+ public repositories.