

# Maryam Amjad

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## EDUCATION

### Artificial Intelligence (BS)

Computer Vision, Generative AI, Deep Learning, Natural Language Processing

FAST NUCES, Islamabad

July 2021 - June 2025

## SKILLS

**Programming Languages:** Python, C, C++, SQL

**Frameworks:** Numpy, Pandas, Scikit-Learn, NLTK, Matplotlib, SpaCy, TensorFlow, PyTorch, Cv2, Keras, Flask, Selenium, Hugging Face, Transformers, Tesseract

**Data Engineering Tools:** Docker, Apache Airflow, Kubernetes, MySQL

**DevOps Engineering Tools:** Git, Docker, Jenkins, CI/CD pipelines, Jupyter Notebook

**Soft Skills:** Leadership, Event management, Time management, Teamwork, Communication, Problem Solving

## EXPERIENCE

### Artificial Intelligence Intern

AIM Lab Islamabad

Jun 2023 - Aug 2023

- : Developed a website that generates slides from a prompt, creating the specified number of slides with relevant images, headings, and subheadings.

### Lab Demonstrator for Object Oriented Programming

FAST NUCES Islamabad

Jun 2023 - Aug 2023; Sep 2023 - Dec 2023

- : Guided students with core concepts like inheritance, debugging, and hands-on coding.

### Lab Demonstrator for Machine Learning

FAST NUCES Islamabad

Sep 2024 - Dec 2024

- : Assisted in feature engineering, model optimization, hyper-parameter tuning and live demos.

## PROJECTS

### TherapEase – Autism Therapy Assistant:

Developed a 3D digital twin-based system with real-time emotion detection, automated diagnostic support, and therapist dashboard for personalized autism therapy.

*Technologies Used:* React, Three.js, OpenCV, MediaPipe, Flask, TensorFlow, DeepFace

### Image Classification with CNN:

Developed a Convolutional Neural Network (CNN) achieving 90% accuracy on CIFAR-10 dataset.

*Technologies Used:* TensorFlow, Keras, Python, NumPy, Matplotlib

### Meme Classification:

Developed a sentiment classification system using six sklearn classifiers (three for images and three for text) and deployed as a Flask web application for real-time meme sentiment analysis.

*Technologies Used:* Scikit-learn, Flask, Python, TensorFlow, OpenCV, NLTK, Pandas

### Image Super-Resolution with GANs:

Enhanced low-resolution images using ESRGAN (Enhanced Super Resolution Generative Adversarial Network), optimizing perceptual and adversarial loss for realistic textures and high PSNR/SSIM scores.

*Technologies Used:* PyTorch, ESRGAN, Python, NumPy, OpenCV

### MLOps Pipeline for Weather Prediction:

Developed an MLOps pipeline with MLFlow for model versioning, AirFlow for automation, and Kubernetes for deployment. Built a full-stack weather prediction app with CI/CD integration.

*Technologies Used:* MLFlow, AirFlow, Kubernetes, Docker, Flask, Python, AWS, Git, Jenkins, DVC

## CERTIFICATIONS

**Convolutional Neural Networks:** DeepLearning.AI

**Generative AI with Large Language Models:** DeepLearning.AI

**Fundamentals of AI Agents Using RAG and LangChain:** IBM

**AWS Cloud Technical Essentials:** AWS

**Fundamentals of Reinforcement Learning:** University of Alberta