

# Amjid Ali

[amjidali3797@gmail.com](mailto:amjidali3797@gmail.com) | +82 10 2158 1412 | D2-Visa | Pakistan

[Github](#) | [LinkedIn](#)

서울특별시 광진구 군자동 60-57

## SUMMARY

Deep Learning Engineer with strong expertise in computer vision, multimodal learning, and predictive modeling, backed by hands-on experience building AI-driven solutions in research and industry environments. Skilled in developing scalable deep learning pipelines, designing transformer-based architectures, implementing multimodal fusion models, and optimizing systems for real-time performance. Experienced across the full AI lifecycle, from data generation and model development to deployment and automation, using frameworks such as PyTorch, TensorFlow, and ML ops tools. Passionate about applying AI to solve real-world problems in vision, analytics, and intelligent automation.

## SKILLS

▶ TensorFlow	▶ Pytorch	▶ Keras	▶ Transformers	▶ CNN	▶ RNNs	▶ Explainable AI
▶ Object Segmentation & Detection	▶ GAN	▶ Multimodal Fusion	▶ Anomaly Detection	▶ Time Series		
▶ Video Analytics	▶ NumPy	▶ Pandas	▶ Feature Engineering	▶ Git	▶ Unity	
▶ Ethereum	▶ IPFS	▶ Web3	▶ Smart Contract	▶ Jira	▶ Tableau/BI	
▶ Rest API	▶ Django	▶ HTML	▶ CSS	▶ Streamlit	▶ Raspberry Pi	

## EXPERIENCE

### SEJONG UNIVERSITY, SEOUL, SOUTH KOREA

MARCH 2024 -FEBRUARY 2026

Research Assistant – Deep Learning (Computer Vision)

Projects:

- **Development of Advanced algorithm for battery health prediction**

This project focuses on creating intelligent models that can accurately estimate the health, performance, and remaining lifespan of batteries. It typically involves analyzing large amounts of data, such as voltage, temperature, current, and charging cycles, to identify patterns that indicate battery degradation. By using machine learning or deep learning techniques, the goal is to predict failures early, improve energy efficiency, and enhance the reliability of battery-powered systems, such as electric vehicles, mobile devices, or energy storage technologies.

- **AI policy simulation platform to solve social problems in depopulated areas in Korea**

This project aims to develop an AI-driven platform that helps policymakers understand and address the challenges caused by population decline in rural and underpopulated regions of Korea. Using machine learning models, the system analyzes demographic trends, economic conditions, migration patterns, and social factors to simulate the impact of different policy decisions. By predicting which policies are most effective, such as incentives for local employment, housing support, or infrastructure development, the platform helps government agencies design data-driven strategies to reduce depopulation and support sustainable regional growth.

- **Unity Scenario Development**

This project involves using the Unity game engine to create simulated environments and scenarios for data generation. By designing controlled virtual scenes, such as streets, buildings, objects, or specific human activities, we can produce high-quality synthetic data for training and testing AI models. This approach is especially useful when real-world data is difficult to collect, unsafe, or costly, and it allows for precise control over lighting, movement, camera angles, and object behavior to support computer vision and machine learning research.

- **Anomaly Behavior recognition for accident prevention in a connected vision environment (Thesis Work)**

This project focuses on developing an intelligent surveillance system that can automatically detect unusual or dangerous behaviors in real time using both visual and audio data. By combining computer vision, deep learning, and multimodal fusion, the system identifies anomalies, such as accidents, falls, fights, or abnormal movements, to help prevent harmful incidents before they escalate. The connected vision environment enables information from multiple cameras and sensors to be analyzed together, improving accuracy and supporting faster, more effective accident prevention in public spaces or industrial settings.

### Teaching Assistant

January 2020 -January 2023

### *Teaching Experience*

- Managed classroom activities and supported students with understanding course concepts
- Assisted in the implementation of course content, assignments, and lab sessions
- Helped organize and prepare teaching materials in coordination with the instructor
- Provided project management support, including guiding student groups and monitoring their progress

### EDUCATION

#### **Sejong University, Seoul, South Korea**

*Master's in Software -Deep Learning (Computer Vision)*

**March 2024 -February 2026 (Expected)**

#### **Research Publications:**

- AVAR-Net: A Lightweight Audio-Visual Anomaly Recognition Framework with a Benchmark Dataset (Under review)
- Dual-Modality Visual-Audio Fusion and a New Benchmark for Anomaly Recognition in Dynamic Scenes (Submitted)
- Multi Camera Connected Vision System with Multi View Analytics: A comprehensive Survey [[arXiv](#)]
- Active Learning for Anomaly Recognition: Leveraging Visual and Audio Data Fusion
- Audio-Visual Semi-Supervised Framework for Real-Time Anomaly Recognition
- Ads Modified ViT-based Anomaly Recognition using Audio Data

#### **Islamia College Peshawar University, Pakistan**

**September 2018 -September 2022**

*Bachelor's in Software Engineering – Software Development*

#### **Projects:**

##### **• Visually Assisted System Using Blockchain (Thesis)**

This focused on integrating computer vision with blockchain technology to create a secure and transparent framework for processing visual data. The system leveraged Ethereum and smart contracts to ensure tamper-proof storage and verification, while deep learning methods were used for video summarization and visual data extraction. This work aimed to address key challenges related to data integrity, secure communication, and trust in distributed environments, providing a reliable solution for applications requiring both visual analysis and strong security guarantees.

##### **• Early Fall Detection**

The Early Fall Detection project focused on developing an AI-based system to identify fall risks in elderly individuals through gait and movement analysis. Using advanced machine learning techniques, the project analyzed spatiotemporal patterns in human motion to detect subtle irregularities that may indicate an increased likelihood of falling. The goal was to enable early intervention, improve safety, and reduce healthcare risks for aging populations. This work was part of a European Union research initiative aimed at supporting smarter healthcare solutions and enhancing the quality of life for the elderly.

### ACHIEVEMENTS & AWARDS

#### **Prime Minister Youth Initiative Scheme**

*Awarded Laptop by Prime Minister for educational performance*

**March 2021**

#### **100% Study Scholarship**

*Sejong University, South Korea*

**December 2023**

#### **AI for Material Science**

*Awarded Cash Prize by the CEO of IAM Lab for the performance*

**October 2024**