

# Azeem Aslam

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[LinkedIn](#) | [GitHub](#) | [Portfolio](#)

Lecturer & AI/Hi-Tech Trainer with MSc in IoT Data Science and expertise in Machine Learning, Deep Learning, Computer Vision, IoT, and Robotics. Skilled in PyTorch, TensorFlow, CNNs, and YOLO for end-to-end AI solutions. Experienced in teaching undergraduate courses and leading government-funded training (NAVTTTC, EU, Germany). Passionate about mentoring and applying emerging technologies to real-world problems.

## Skills

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- **Programming & Tools:** Python, C++, SQL, Power BI, Git/GitHub, Google Colab, Jupyter Notebook, Vibe Coding (Teaching Platform)
- **Machine Learning & AI:** Deep Learning, Computer Vision, Pose Estimation, Gait Analysis, Object Detection (YOLOv8/YOLOv9), Human Motion Tracking, Model Evaluation (mAP, FPS, Accuracy Metrics)
- **Frameworks & Libraries:** PyTorch, TensorFlow, OpenCV, MediaPipe, OpenPose, Scikit-learn, NumPy, Pandas, Matplotlib
- **Applications:** Smart Healthcare, Elderly Fall Risk Analysis, Mobility Pattern Recognition, Urban Analytics

## Professional Experience

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**Computer Vision Engineer** | OmniDent.ai | Los Angeles, CA, USA (Remote)

*June 2024 – Aug 2024*

- Developed a **deep learning–based gait estimation system** to analyse human walking patterns, achieving high accuracy in stride length, gait speed, and mobility feature extraction.
- Designed a **data preprocessing and augmentation pipeline** to address challenges such as occlusions, lighting variations, and noisy sensor inputs.
- Implemented **pose estimation frameworks (MediaPipe, OpenPose)** within PyTorch/TensorFlow pipelines for precise joint tracking and temporal gait analysis.
- Explored **correlations between gait patterns and health indicators**, supporting applications in **fall-risk detection, rehabilitation monitoring, and smart healthcare solutions**

**Lecturer (Computer Science)** | University of Veterinary and Animal Sciences (UVAS) | Pakistan

*Sept 2025 – Present*

- Delivered undergraduate courses in **Artificial Intelligence, Data Structures, and Programming Fundamentals**, mentoring 200+ students across multiple sections.
- Designed and implemented **hands-on labs** using Python, C++, and AI tools, ensuring students gained practical, job-ready experience.
- Guided students in developing projects with **AI-based deep learning models, GitHub version control, and Streamlit/Flask deployment**, bridging classroom theory with real-world applications.
- Created and managed **comprehensive course materials** (lecture slides, lab manuals, and assignments) tailored to diverse student learning needs.

**Trainer (AI & Robotics)** | NAVTTC | Pakistan

*Sept 2025 – Present*

- Delivered training in **AI, ML, Deep Learning, Computer Vision, IoT, and Robotics** under a government–EU initiative.
- Designed and taught **Hi-Tech courses** with real-world applications such as smart surveillance, autonomous robots, and IoT automation.
- Supervised **hands-on projects**, ensuring participants gained industry-relevant, job-ready skills.
- Mentored trainees on **career pathways**, freelancing, and global opportunities in emerging technologies.
- Collaborated with NAVTTC to develop **curricula and training modules** aligned with international standards.

**Communication Officer** | Punjab Safe Cities Authority | Lahore, Pakistan

*July 2017 – Aug 2023*

- Collaborated with technical teams on **AI-driven video analytics**, including **object detection, facial recognition, and anomaly detection** for urban safety monitoring.
- Supported **smart city initiatives** by exploring IoT-based surveillance integration and contributing to **AI-enabled traffic and security systems**.

## Projects

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### Brain Tumour Detection using YOLOv8 & YOLOv9 | [GitHub Link](#)

- Engineered and compared **YOLOv8** and **YOLOv9** models to detect and localize **brain tumours** from MRI scans, achieving a **mAP@0.5 of 91.7%** with **YOLOv9**.
- Implemented a complete **pipeline** in Google Colab for real-time inference, supporting early diagnosis research in **medical imaging**.
- Trained the models on a **custom medical dataset** from **Roboflow**, demonstrating expertise in handling specialized **image data**.

### Object Detection for Additive Manufacturing Defects | [Live Streamlit App](#)

- Built a **full-stack computer vision application** using **Streamlit** and YOLO to detect defects (cracking, stringing, layer shifting) in 3D-printed components.

### Real-time PPE Detection in Industrial Environments | [GitHub Link](#)

- Designed a YOLO-based system to identify the presence or absence of Personal Protective Equipment (helmets, safety vests, gloves) in **real-time video streams**.
- The system provides critical safety monitoring to help minimize occupational accidents in industrial settings.

### Active Phone User Detection in Video | [GitHub Link](#)

- Created a dual-model system combining **YOLOv8** and **MediaPipe** to detect active hand-held phone usage in video footage.
- The application generates **annotated videos** and detailed summary reports (CSV, JSON) of detected activity, useful for behaviour analysis.

## Education

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**MSc Internet of Things with Data Science** (Distinction) University of Salford, UK | 2024

**BS Information Technology** (Distinction) University of Sargodha, Pakistan | 2016

## Certifications

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- Python for Everybody and Deep Learning Specialization – Coursera
- Computer Vision with PyTorch and Git & GitHub for Developers – LinkedIn Learning