Aditya Vohra

Machine Learning Engineer

Address: London, United Kingdom | (+44) 7920534150

linkedin/adityavohra | github/adityavohra | adityavohra2003@gmail.com

Professional Experience

Indian Institute of Technology, Delhi — New Delhi, India

Research Intern — *Apr 2025 – Aug 2025*

- **Tools:** TensorFlow, Keras, CUDA, MONAI, DICOM, OpenCV.
- Engineered a medical-grade CT preprocessing pipeline for LIDC-IDRI and All India Institute Of Medical Sciences (AIIMS) datasets with medical compliant standardization.
- Achieved an 88% recall on lung-nodule classification using a novel multi-scale cross-attention 3D CNN architecture; work submitted for publication.

Atos - Syntel — Pune, India

Project Trainee — *Jan 2025 – May 2025*

- **Tools:** LangChain, AutoGen, n8n.
- Enhanced the company's existing IDP system by integrating multimodal processing, combining text extraction, visual understanding, and structured document parsing.
- Developed a RAG workflow that ingests documents end-to-end, leverages the upgraded IDP, applies ML-based image classification, and uses GenAI to deliver automated insights and summaries, reducing manual review effort by 40%.

Maharaja Agrasen Institute of Technology — New Delhi, India

Research Assistant — *Sep 2023 – Sep 2024*

- **Tools:** PyGAD, PySwarms, TensorFlow, Keras, OpenCV.
- Explored bio-inspired optimization methods such as PSO and GA, alongside deep learning techniques for optimisation tasks.
- Developed a hybrid PSO–GA optimization framework that reduced model parameters by 25–30% and improved MRI classification accuracy by approximately 9%.

Indian Institute of Technology, Delhi — New Delhi, India

Research Intern — *Jun 2023 – Jul 2023*

- **Tools:** Python, PyTorch, Labelme, OpenCV.
- Built CNN-based segmentation models for endoscopic surgical videos and collaborated with clinicians to ensure high-quality annotations and reliable evaluations.

Education

King's College London — London, United Kingdom

Master of Science in Data Science — *Expected Sep 2026*

Maharaja Agrasen Institute of Technology — New Delhi, India

Bachelor of Technology in Computer Science, ***CGPA: 8.99/10*** — *May 2025*

Technical Skills

Programming Languages: Python, C/C++, SQL, R
Frameworks & Libraries: PyTorch, TensorFlow, Keras, Scikit-learn, OpenCV, MediaPipe
Machine Learning: Supervised and unsupervised learning, transformers, attention mechanisms, feature engineering
Computer Vision: 2D/3D CNNs, detection, segmentation, classification, medical imaging (DICOM)
GenAI & Agentic AI: LangChain, AutoGen, RAG pipelines, prompt engineering
Optimization: Model compression, parameter reduction, PSO, GA

Projects

Alzheimer's Disease Diagnosis (DenseNet-121 + PSO-GA) | *Python, TensorFlow, Keras, Flask, OpenCV*

- Improved MRI classification accuracy by 9% and reduced features by 80% using a DenseNet-121 CAD pipeline optimized with PSO–GA.

Gesture Recognition System (ASL Detection) | *Python, OpenCV, MediaPipe, Scikit-learn*

- Built a real-time ASL alphabet recognition system using OpenCV, MediaPipe hand tracking, and a Random Forest classifier.