

Rohan Purohit

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PROFESSIONAL SUMMARY

AI/ML Engineer with expertise in deep learning, computer vision, and real-time AI systems. Skilled in designing, training, and deploying ML models for healthcare, defence, and automation. Proficient in data preprocessing, feature engineering, model optimization, and full-stack development.

KEY PROJECTS

Real-Time Drone Detection System — Built a Keras-based multi-output CNN for drone detection and subtype classification. Integrated OpenCV multi-camera streaming, achieving 85%+ confidence and reducing false positives by 30% via advanced preprocessing and perspective fusion.

Pneumonia Detection — Designed a TensorFlow CNN for a dataset of 5,000+ chest X-rays, applying data augmentation and normalization. Benchmarked performance against Logistic Regression & Random Forest, visualizing results with ROC curves.

AI-Based Image Downloader — Developed a Streamlit application for bulk image downloads with intelligent, content-based filtering using the CLIP model, supporting multiple resolutions and ZIP export.

Personal Portfolio Website — Developed a fully responsive personal portfolio using React and modern CSS, featuring a custom, rule-based AI chatbot to create an interactive and engaging user experience.

PROFESSIONAL EXPERIENCE

Intern – Bharat Electronics Limited (BEL), D&E/NCS Jun–Jul 2025

- Engineered a defence-grade object detection pipeline (YOLO/Faster R-CNN, TensorFlow, OpenCV) for multi-camera real-time drone tracking.
- Increased accuracy to over 85% and reduced false positives by 30% using preprocessing, noise reduction, and multi-perspective fusion.

Intern – Pan India Consultants Pvt. Ltd., Software Development Jun 2024

- Built a C#/.NET serial port communication tool (sender/receiver) for industrial hardware.
- Integrated PostgreSQL with Windows/web applications, improving data access speed by 20%.

TECHNICAL SKILLS

ML & AI	Deep Learning frameworks, Computer Vision, Neural Networks, TensorFlow, Keras, PyTorch, OpenCV, YOLO, Faster R-CNN, CLIP
Web Development	React, JavaScript, HTML, CSS, Streamlit, UI/UX Design
Programming	Python, C/C++, C#/.NET
Data Science	Data Preprocessing, Feature Engineering, Model Evaluation, Pandas, NumPy, Matplotlib, Scikit-learn
Databases	PostgreSQL, Oracle, SQL, PL/SQL
Tools	Git, Docker, Linux, PIL, Torch

EDUCATION

B.E. Computer Science Engineering — Thapar Institute of Engineering & Technology, Patiala (2022–Present)
Class XII (PCM) – 97%, Amity International School, Saket (CBSE, 2021) Class X – 91.3%, Amity International School, Gurugram (CBSE, 2019)

CERTIFICATIONS

Natural Language Processing with Classification and Vector Spaces — DeepLearning.AI & Coursera

Data Structures in C++ — Coding Ninjas

LEADERSHIP & INTERESTS

Former Head of Fine Arts – Fine Arts & Photography Society. Interests: Sketching, Sculpture, Tennis.