HARSHPREET SINGH

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Education

Guru Nanak Dev Engineering College, Ludhiana, India
Bachelor of Technology - Computer Science & Engineering; GPA: 8.00 2027
Courses: Computer Networking, Object-Oriented Programming(C++),Data Structures,Operating systems

Teja Singh Sutantar Memorial School, Ludhiana, India
12th Grade(science): 93.6% 2023
Courses: Physics, Chemistry, Mathematics, English, Physical Education

Skills Summary

Programming Languages: C, C++, Python, SQL
Machine Learning & Data Science: NumPy, Pandas, Matplotlib, scikit-learn, OpenCV, Streamlit,Data Preprocessing, Feature Engineering, Model Training & Evaluation
Development & Tools: HTML, CSS (Bootstrap, Tailwind), JavaScript, React.js, Git, Linux
Core Competencies: Problem Solving, Analytical Thinking, Research Orientation, Technical Documentation

Training and Experience

Programming in C++ Ludhiana, India
Guru Nanak Dev Engineering College July 2024 – Dec 2024
- Completed structured training in **Object-Oriented Programming, Data Structures, and Algorithms**.
- Designed and implemented a *Library Management System* focusing on data handling and logic building.

Machine Learning (Industrial Training) Chandigarh, India
ThinkNEXT Technologies Pvt. Ltd. June 2025 – July 2025
- Completed intensive training in **Python, Pandas, NumPy, and scikit-learn**.
- Applied **regression, decision trees, and clustering algorithms** on real-world datasets.
- Performed **data preprocessing, feature engineering, and model evaluation** to improve predictive performance.

Projects

Student Dropout Prediction System | Python, Scikit-learn, Pandas, NumPy, Streamlit Live Demo

- Developed a machine learning-based web application to predict student dropout risk based on academic, demographic, and behavioral data.
- Implemented multiple algorithms including Logistic Regression and Random Forest to compare model performance, achieving **93% accuracy**.
- Built an interactive dashboard using Streamlit to visualize predictions and provide actionable insights for educational institutions.

Real-Time Vision Pipeline for Object Detection using YOLO | YOLO, OpenCV, Python GitHub

- Designed and implemented a **deep learning–based computer vision pipeline** for real-time detection and counting of persons and objects in live video streams.
- Implemented the vision pipeline in Python using **YOLO and OpenCV**, achieving real-time inference at 30 FPS while maintaining stable detection accuracy.
- Processed video frames for object localization, class-wise counting, and real-time visualization.
- Analyzed inference performance and system behavior under varying lighting and motion conditions.

Achievements and Certifications

- Selected for the **Smart India Hackathon (SIH) 2024 and 2025**, a national-level innovation challenge; qualified first team from my college. [Certificate]
- Participated in a **National-Level Hackathon at Thapar University**, with the project selected among the **Top 11% teams** out of **850+ submissions**. [Certificate]
- Executive Member of the **Training and Placement Cell (T&P)**, contributing to recruitment coordination and student career guidance initiatives.