

# Harsh Gahlawat

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## Education

**National Institute of Technology, Jalandhar**  
*B.Tech in Instrumentation and Control Engineering*

Jalandhar, India  
2023-2027

## Experience

**Open-Source Contributor**  
*GirlScript Summer of Code*

Remote  
October 2024

- Contributed to computer vision projects, merging 10+ pull requests using Python and OpenCV.
- Enhanced AI applications with TensorFlow and PyTorch, reducing inference time by 30%.
- Coordinated Git-based version control, streamlining collaborative coding and deployment processes.

**Data Science Intern**  
*Prodigy InfoTech*

Remote  
September 2024 – October 2024

- Spearheaded a decision tree classifier using Python and scikit-learn, achieving 85% accuracy.
- Performed exploratory data analysis with NumPy and Pandas, optimizing data preprocessing.
- Implemented real-time visualization dashboards with Matplotlib, boosting insights by 30%.
- Developed a Python-based data pipeline using Pandas and SQL, reducing processing time by 30%.

## Projects

**Smart CCTV Object Detection System**

[Github](#)

- Developed a real-time computer vision system using Python and OpenCV, achieving 90% accuracy in object detection.
- Optimized vectorized code with NumPy, reducing processing time by 40% for efficient real-time performance.
- Deployed a scalable Flask web app, enabling seamless threat monitoring with model optimization.

**Student Stress Prediction**

[Github](#)

- Built a machine learning model using TensorFlow and NumPy, achieving 85% accuracy in stress prediction.
- Designed a full-stack Next.js application with real-time visualization dashboards for actionable insights.
- Enhanced model performance with state-of-the-art feature engineering and data preprocessing.
- Utilized supervised learning algorithms (Random Forest, XGBoost) to build and optimize predictive models, achieving a 90% accuracy.

**SafeVoyage AI**

[Github](#)

- Developed a real-time ML web app using PyTorch, achieving 80% accuracy in survival predictions.
- Optimized model inference with NumPy, ensuring efficient computation for scalable deployment.
- Deployed with Gradio, providing an interactive UI with computer vision-enhanced visual feedback.

## Technical Skills

**Programming and Tools** : Python, C++, R, Git/Github, Jupyter, Rest APIs

**Machine Learning & Computer Vision**: TensorFlow, PyTorch, OpenCV, scikit-learn, Deep Learning, Model Optimization, Feature Engineering

**Data Science**: NumPy, Pandas, Flask, Matplotlib, Seaborn, SQL, EDA, Data Cleaning, Data Preprocessing.

**AI & LLMs**: Hugging Face, Transformers, LangChain, LangGraph, RAG, Fine tuning, AI Agents.

## Achievements

- Tackled 300+ **LeetCode** problems, optimizing solutions for efficiency and accuracy, demonstrating expertise in algorithmic programming and technical interview preparation.
- Achieved **Pupil** rank on **Codeforces**, solving complex algorithmic problems with proficiency in data structures, algorithms, and programming languages like C++ and Python.
- Earned prestigious recommendation in the **Services Selection Board (SSB) interview**, demonstrating exceptional leadership, problem-solving, and communication skills under high-pressure evaluation.
- Contributed to **NCC** college unit, completing intensive drills and leadership programs, fostering adaptability and collaboration in diverse team settings.