# Harsh Raj

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#### Professional Summary

Versatile Machine Learning Engineer and Full Stack Developer skilled in designing and deploying AI-powered web solutions. Delivered deep learning systems with 40% performance gains. Proficient in Python, TensorFlow, React, and AWS, with accomplishments spanning open-source contributions, hackathons, and production-grade builds.

#### **EDUCATION**

VIT Bhopal University

B. Tech in Computer Science and Engineering

**DAV Public School** 

 $Class\ XII$ 

DAV Public School

 $Class\ X$ 

Bhopal, India CGPA: 8.57/10

Patna, India

Percentage: 86.4% 2021 Patna, India

Percentage: 87.8% 2019

#### TECHNICAL SKILLS

Languages: Python, C++, Java, JavaScript, HTML, CSS, SQL

Frameworks & Libraries: React.js, Next.js, Node.js, Express, TensorFlow, Scikit-learn, OpenCV, Tailwind CSS, Syncfusion

Tools & Platforms: Git, Docker, AWS, MongoDB, Postman, Figma, ETL Pipelines, GitHub, Google Colab

Concepts: Machine Learning, CNNs, MLPs, REST APIs, Agile, Version Control

#### PROFESSIONAL EXPERIENCE

#### UI/UX Designer

January 2023 – June 2023

 $Vroom\,Verse,\,\,Remote$ 

- Crafted and deployed a responsive UI with Figma and Tailwind CSS, reducing page load times by 20%.
- Refined user interaction flows and improved visual hierarchy, elevating engagement by 15%.

#### **Open-Source Contributor**

May 2023 - July 2023

Social Summer of Code, Remote

- Collaborated with 8000+ developers on open-source projects hosted on GitHub during SSOC.
- Merged 4 pull requests by refactoring code, fixing issues, and integrating new features.
- Revamped contributor onboarding guides, increasing repository engagement by 25%.

### Data Intern

July 2024 - August 2024

 $Visyntro,\ Remote$ 

- Facilitated client interactions and maintained structured reports for cross-functional stakeholders.
- Automated repetitive ETL workflows using Python and Google Sheets API, reducing manual overhead by 30%.

#### Projects

#### Multi-Modal House Price Estimation | Python, Scikit-learn, TensorFlow, OpenCV

- Architected a multimodal regression model utilizing 1500+ property listings with both textual and image data.
- Attained an R<sup>2</sup> score of 0.92 by integrating VGG16-based CNN features with structured data using MLPs.
- Applied OpenCV for feature extraction and TensorFlow pipelines for model fusion and training.

#### Full-Stack Social Media App | MongoDB, Express, React, Node.js

- Engineered a MERN stack platform with authentication, real-time chat, and content sharing features.
- Optimized server-side APIs and MongoDB queries, accelerating response times by 35%.

#### ACHIEVEMENTS

#### Hackstasy Hackathon – SRM University (Microsoft + YouTube)

April 2025

- Finalist: Ranked Top 20 among 300+ participants.
- Devised a real-time traffic signal optimizer leveraging OpenCV and ML-based congestion heatmaps.
- Reduced traffic latency in simulations through intelligent signal control.

## Karnataka State Police Datathon - Semi-finalist: Placed among the top 6 of 250+ teams.

Feb 2024

- Delivered an AI solution that minimized congestion prediction error by 20%.

#### Extracurricular Activities

#### Core Member - Data Science Club & Dance Club

- Spearheaded over 5 technical workshops, growing participant turnout by 50%.
- Mentored juniors and coordinated inter-college technical and cultural festivals.

#### CERTIFICATIONS

Web Development Specialization – Coursera

December 2023

AWS Academy Cloud Architecting – Associate Level – Ethnus MERN Stack Full-Stack Development Certification – Ethnus

April 2025