

Ayushman Singh

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EDUCATION

Sardar Vallabhbhai National Institute of Technology

Bachelor of Technology in Computer Science and Engineering

- Current CGPA: 8.65/10.0

Surat, Gujarat

August 2024 – Present

Mount Index International School

Higher Secondary Certificate (CBSE)

- Score: 90.4%

2024

A.S.M.P. Public School

Secondary School Certificate (CBSE)

- Score: 95.2%

2022

EXPERIENCE

Summer Research Intern

May 2025 – June 2025

MNNIT Allahabad, Prayagraj

On-site

- Developed an AI-based **single-person tracking system in dense crowds** for Mahakumbh 2025 to aid public safety and surveillance.
- Implemented real-time **object detection and tracking** using **YOLO** with **OpenCV** and **NumPy**.
- Applied **Kalman Filter** and appearance-based re-identification to handle occlusions and identity switches.
- Conducted the project under the mentorship of **Dr. Anubhav Rawat**.

PROJECTS

TransitFlow | React, Node.js, Express, MongoDB

Website | GitHub

- Built a one-stop transportation platform addressing urban mobility challenges as part of Web Wonders.
- Designed and integrated **Future Transport**, a visualization module showcasing next-generation transport systems.
- Developed responsive and modular UI components using React, ensuring cross-device compatibility.
- Collaborated in a team-based environment using Git for version control and feature integration.

PropValue AI | Python, Scikit-learn, CatBoost, Pandas, NumPy, FastAPI, React (Vite)

Website | GitHub

- Built an end-to-end ML pipeline for predicting residential property prices in Surat, involving extensive data cleaning and feature engineering on real-world listings (furnishing, floor, transaction type, BHK, area).
- Trained and evaluated multiple regression models including Linear Regression, Lasso, and **CatBoostRegressor**, achieving an **R² score of ~0.90** with strong generalization on unseen data.
- Built a **FastAPI**-based backend to serve real-time price predictions and integrated it with a responsive **React (Vite)** frontend for interactive user input.

Genesis | React, Express, PyTorch, Firebase

Website | GitHub

- Developed **Genesis**, a full-stack application for detecting AI-generated images using a deep learning model.
- Trained and fine-tuned a ConvNeXt image classification model in PyTorch to distinguish real and AI-generated images.
- Integrated the trained model with a React frontend and Express backend, including features such as Grad-CAM explanations, prediction history, and cloud-based image storage.

TECHNICAL SKILLS

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

Frameworks: React, Node.js, Express.js, FastAPI, Tailwind CSS

ML / Data: Scikit-learn, CatBoost, Pandas, NumPy, PyTorch, Feature Engineering, Regression Models

Computer Vision: YOLO, OpenCV

Databases: MongoDB, MySQL

Tools: Git, GitHub, Postman

COMPETITIVE PROGRAMMING

- LeetCode:** Max. Rating 1573, 600+ problems solved
- Codeforces:** Max. Rating 1121
- CodeChef:** Max. Rating 1243

ACHIEVEMENTS

- Secured **1st Rank** in **Web Wonders**, a web development competition organized by NIT Surat.
- Secured **AIR 948** among **2248 teams** in ICPC Asia Amritapuri Regional Online Preliminary Contest.