# Yash Karnani

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## Projects

**Histopathologic Oral Cancer Detection**                                    github link

- Developed an end-to-end CNN pipeline to detect oral cancer from histopathological images **achieving 92.45% accuracy** on test data, addresses a critical global health issue with 377,713 new OSCC cases annually.
- Optimized model performance using techniques such as dropout, batch normalization, learning rate scheduling, and early stopping, achieving a precision of 94.17%, recall of 90.76%, and an F1 score of 92.43%.
- *Technologies:* Neural Networks, TensorFlow, CV2, Python

**Dynamic Traffic Management System**                                    github link

- Produced an intelligent system using CCTV data to optimize signal timing, **reduce congestion by 20%** and reduce traffic violations by 25%, while utilizing vehicle data for road improvements and infrastructure planning.
- Implemented a pilot system for emergency vehicle prioritization and night-time vehicle detection, and deployed a real-time monitoring dashboard to actively track traffic violations and enhance urban traffic safety and efficiency.
- *Technologies:* OpenCV, YOLO, Python, React, HTML5

**Arrive O'Clock**                                    github link

- Innovated features using the Google Maps API within a mobile app focused on optimizing user journeys through tailored alerts about delays—personalized solutions implemented drove engagement levels up by 30%.
- Integrated Llama3 to provide personalized travel recommendations, leading to a 25% increase in overall satisfaction ratings.
- *Technologies:* LLM, Google Maps API, JavaScript, HTML5, CSS

## Experience

**Junior Research Engineer - AI/ML**, Rhenix Lifesciences – Online                                    April 2025 – Present

- Exploring wearable devices for real-time health monitoring, early detection, and personalized diagnostics.
- Developing methods to extract and analyze information from medicine strips to enhance patient care and treatment tracking.

**TCD Intern**, Training and Competence Development – Visakhapatnam, AP                                    March 2024 – March 2025

- Designed and coordinated **70+ programs** to enhance student competencies, focusing on personal & professional development.
- Led a team of 10 interns as Campus Lead, fostering the ability to work in a team, and skill development.

**Java Developer Intern**, Woodpecker Analytics – Pune, MH                                    May 2024 - June 2024

- Automated contract management and email processing, cutting manual effort and boosting **efficiency by 75%**.
- Spearheaded a nationwide data science hackathon with **9,000 teams and 1 lakh prize pool**, driving innovation and outreach.

## Education

**GITAM University**, B.Tech in Computer Science and Engineering (IoT)                                    August 2022 – Present
  CGPA: 8.3/10.0

**Kalmadi Junior College**, Intermediate                                    March 2022
  Percentage: 66.5%

**Hutchings High School**, ICSE                                    March 2020
  Percentage: 96.6%

## Skills

**Programming Languages:** Python, Java, SQL, C, JavaScript, CSS, R
**Frameworks & Tools:** React, TensorFlow, OpenCV, Keras, Flask, Pandas, Matplotlib, Tableau, GitHub, ServiceNow, Jupyter Notebook
**Technical Skills:** Data Analysis, Machine Learning, Computer Vision, Web Development
**Soft Skills:** Strategic Leadership, Collaborative Teamwork, Analytical Mindset, Public Speaking

## Certifications

**Introduction to Computer Vision and Image Processing**, IBM                                    July 2025
**Introduction to Data Science**, Cisco                                    March 2025
**Flow Designer**, ServiceNow                                    January 2025

## Leadership & Activities

**Analytics Lead**, Meta Developer Circle                                    June 2024 – March 2025
**Head of Logistics**, Aeromodelling Club                                    June 2023 - December 2023

## Achievements

Stood 2nd in a 48-hour competitive coding hackathon with increasing difficulty across three rounds.                                    March 2024
Selected among 3000+ students for Catch Them Young at Infosys.                                    May 2018