

# SAI AKSHAY PULUSU

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## EDUCATION

### Mahatma Gandhi Institute of Technology

Bachelor of Engineering - Computer Science and Engineering and Business Systems CGPA : 8.04 November 2021 - June 2025 Hyderabad, Telangana

## EXPERIENCE

### TUTORSQUEST

Machine Learning Intern

Hyderabad

September 2024 - March 2025

- Developed and deployed machine learning models focused on predictive analytics and recommendation systems, utilizing data preprocessing, feature extraction, and model optimization to improve performance in real-world business applications.
- Collaborated with cross-functional teams to evaluate and enhance model accuracy through continuous testing and refinement, contributing to innovative solutions that address complex business challenges and improve overall system efficiency.

## PROJECTS

### Steganography: Secure Data Concealment in Images | Django, OpenCV, NumPy, AES Encryption [Github](#)

- Developed a secure, web-based steganography system that embeds encrypted messages within digital images, ensuring high imperceptibility and robust data protection through AES encryption.
- Optimized image quality and processing speed, achieving superior results compared to traditional methods (LSB, LSB-NM, F5) with significantly higher PSNR (94.55 dB) and minimal MSE (0.03), while maintaining fast processing time (0.496 seconds).

### Traffic Sign Detection and Recognition | TensorFlow, OpenCV, Pandas, Numpy

[Github](#)

- Developed a traffic sign detection and recognition system using a CNN model in TensorFlow, optimized for 200+ categories and enhanced with image preprocessing (HRU-Net) to improve recognition under challenging weather conditions.
- Integrated OpenCV for image processing and fine-tuned the model's performance, achieving high accuracy for real-time traffic sign detection, improving autonomous vehicle safety through robust, actionable insights.

### PlantCare AI: Plant Disease Recognition System | TensorFlow, Streamlit

[Github](#)

- Developed a plant disease recognition system using TensorFlow and CNN, enabling real-time image classification of plant leaf diseases with high accuracy. Deployed via Streamlit for interactive user uploads and predictions.
- Integrated actionable insights with weather data and community reporting features, providing users with disease prevention tips and fostering engagement through dynamic, real-time predictions.

## SKILLS

**Technical Skills:** Python, JavaScript, C, Git, SQL.

**Courses:** Data Structures, Design algorithms, OOPS, DBMS, Machine Learning, Deep Learning.

**Soft Skills:** Exhibited strong communication, teamwork, and problem-solving skills in fast paced environments.

## ACHIEVEMENTS AND EXTRACURRICULAR ACTIVITIES

- Secured a bronze medal as a state-level karate player in 2015.
- Executed over 100 hours of practice sessions for Esports tournaments while coordinating with a diverse team of players; developed insights leading to optimized play styles that enhanced competitiveness within the league.

## CERTIFICATIONS

- Certified Data Scientist (IABAC) – Achieved international certification demonstrating proficiency in advanced data science skills and industry analytics standards (2025–2028).
- Certificate from Coursera - IBM Data Science