

SAI SIDDHARTH PANUGANTI

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EDUCATION

Bachelor of Engineering in Information Technology, Vasavi College of Engineering Expected 2027
CGPA: 8.37 / 10

Diploma in Computer Science, Government Polytechnic Hyderabad 2021 – 2024
CGPA: 9.77 / 10

SKILLS

Programming Languages	Python, Java, C, JavaScript, SQL.
Tools & Applied Technologies	Machine Learning, Jupyter Notebook, Git, REST APIs, PowerPoint, Excel, Word.
Web Development	Next.js, Node.js, React.js, Express.js, MongoDB, MySQL, PostgreSQL.
Core Competencies	DSA, OOP, Operating Systems, Computer Networks.

PROJECTS

Oil Spill Detection using Hyperspectral and SAR Imagery

- Implemented an end-to-end oil spill identification model using a 3D convolutional framework (DeepHyperX), enabling reliable detection across hyperspectral and SAR imagery with a 96% accuracy rate.
- Leveraged PCA to compress spectral information and isolate the ten most influential wavelengths, training on a large IEEE GRSS dataset of 10k+ samples to achieve a 15% improvement in classification quality.
- Derived spill boundaries using fine-grained contour extraction and performed region-based volumetric analysis to estimate the overall extent of the affected zone.

Real-time Object Detection using YOLOv8

- Automated a data pipeline to parse 15,000+ XML annotations and normalize coordinates using Pandas.
- Fine-tuned YOLOv8 Nano on PASCAL VOC 2007, achieving 74.4% mAP50 across 20 classes.
- Developed a real-time inference engine using OpenCV for live webcam and video detection.

Clips N Quizzes – Automated Quiz Generator

- Built a MERN-based tool that extracts YouTube transcripts and generates quizzes using Gemini API.
- Automated creation of MCQs, true/false, and fill-in-the-blanks, reducing manual quiz generation time.
- Enhanced user personalization by enabling adjustable difficulty levels to tailor quiz complexity.

ACHIEVEMENTS

- Secured Elite+Gold certification (Top 1% among 16,000+ participants) in NPTEL's *Programming in Java* course, conducted by IIT Kharagpur.
- Secured 1st place in Tech Savishkar 3.0, outperforming national-level teams with an innovative engineering solution.
- Achieved runners-up position at RUDEO Project Expo 2025 (GRIET), recognized for technical excellence and problem-solving impact.
- Secured runners-up position at InnovateX IEEE Hackathon 2025 for developing a high-impact humanitarian technology solution, ranked among the top teams for innovation and societal relevance.

LEADERSHIP

- Deputy Head, DSAC Web Dev Club – led planning and coordination; Conducted bootcamps for students on HTML, CSS, JavaScript, MERN, and open-source contributions.
- Led a 5-member team to win Tech Savishkar Hackathon through efficient execution and presentation.