

# JEET V. PARAB

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## EDUCATION

**Bachelors of Technology in Computer Science and Engineering** **2025**  
Indian Institute of Information Technology, Surat **CGPA: 9.03**

**High School College** **2021**  
Pace Junior Science College, Thane **Percentage: 95.8**

## SKILLS

<b>Technical Skills</b>	Machine Learning, Artificial Intelligence, Natural Language Processing, Automata, System Design, Web Development
<b>Programming Languages</b>	Python, C++, C, PHP, SQL, JavaScript, HTML, CSS
<b>Frameworks &amp; Libraries</b>	NumPy, Pandas, TensorFlow, PyTorch, Scikit-learn, Keras, NLTK, Transformers, React, Laravel, JQuery
<b>Tools &amp; Platforms</b>	GitHub, Google Colab, Streamlit, Power BI, Figma, Label Studio, Google Analytics, Docker, Linux
<b>Coursework</b>	Automata, DBMS, OS, DSA, AI, ML, NLP, OOPS, Web Development, Network Security, Cloud Computing, Big Data

## EXPERIENCE

**Technical Lead - Cloud and Data Engineer** July 2025 - Current  
HCLTech *Chennai, Tamil Nadu*

- Spearheaded development and deployment of Large Language Models (LLMs) within HCLTech's Engineering & R&D Services (ERS) division to address complex enterprise challenges.
- Fine-tuned and optimized transformer-based architectures for domain-specific tasks, integrating LLMs with enterprise platforms to drive automation, accelerate decision-making, and enhance user experiences.
- Advanced AI capabilities through experimentation with prompt engineering, retrieval-augmented generation (RAG), and model distillation, resulting in improved performance and reduced latency.

**Research Intern | Accepted NeurIPS D&B 2025 | Project Page** Jan 2025 – Jul 2025  
Sustainability Lab, IIT Gandhinagar *Gandhinagar, Gujarat*

- Contributed to the paper *SentinelKilnDB* under the mentorship of Prof. Nipun Batra; curated a novel dataset for brick kiln detection in South Asia using low-resolution Sentinel-2 imagery and benchmarked over 28+ traditional (one-stage, two-stage), Transformer-based (DETR) object detection models and remote sensing foundational models (Galileo, TerraMind).
- Boosted validated brick kiln detections to 65,682 (post hand validation), over double the count from lab's prior work (Patel et al. 'Space to Policy'), spanning India, Bangladesh, Pakistan, Nepal and Afghanistan.
- Integrated SimCLR and Jigsaw Puzzles as self-supervised pretext tasks for the YOLOv11m-OBb detection pipeline and enhanced the lab's Garuda library for manual annotation and oriented bounding box (OBB) hand-validation. Initiated integration of active learning and land cover auxiliary data to boost detection accuracy.
- Led spatial compliance analysis with UrbanEmissions, India, evaluating kiln locations with respect to rivers, settlements, hospitals, and inter-kiln distances, and deploying geospatial analytics dashboards for environmental and industrial policy assessment.

**Project Intern** Jun 2024 - Jul 2024  
Prodware Solutions *Thane, Maharashtra*

- Using Machine Learning and Natural Language Processing to create a multi-functional chat bot using Google Dialogflow and Gemini.

- Oracle JDE is provided the Gemini generated query to provide details back to the user. Cut human-in-the-loop processing time by nearly 60% through workflow optimization.

## PROJECTS

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LLM-Based Energy Monitoring System

[Python, Jupyter, LLM Prompt Engineering]

- Engineered an automated energy analytics system where LLM-generated Python code correctly answered over 90% of natural language queries on the UCI Electric Power Consumption dataset.
- Enabled dynamic aggregation and visualization, with system processing 2,075,259 individual records to compute daily and monthly energy trends.
- Benchmarked five leading LLMs (Llama3-8b, Llama3-70b, Gemma2-9b, etc.) across 20+ analytics queries, optimizing prompt quality and reducing code generation errors by 35%.
- Achieved identification of peak energy usage days and anomalous trends with visual output accuracy validated against manually computed results.

Signature Verification System

[Image Processing using Machine Learning]

- A system to match and verify user signature using Machine Learning and Image Processing using OpenCV and sklearn. Labelled images are used to train the dataset and create the Verification System.
- Attained recall and precision values of 0.92 while testing using RF and SVM.

Crime Monitoring System

[Front End Developer, Query Forming]

- A two end point system to help officials track and effectively update the cases going on in the country.
- A User can file/lodge a complain of a crime on the online portal by signing up and filling up the necessary form.
- Use of REST and AXIOS as APIs.

## PUBLICATIONS

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SentinelKilnDB: A Large-Scale Dataset and Benchmark for OBB Brick Kiln Detection in South Asia Using Satellite Imagery

NeurIPS 2025 (Datasets & Benchmarks), San Diego, USA

Authors: Rishabh Mondal, Jeet Parab, Heer Kubadia, Shataxi Dubey, Shardul Junagade, Zeel B. Patel, Nipun Batra

ArXiv preprint link coming soon

## LEADERSHIP AND CERIFICATIONS

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| • Core Member, Robotics Club, IIIT Surat                                   | 2023-2024 |
| • Hosting Member of ACM Summer School: AI for Social Good, IIT Gandhinagar | 2025      |
| • Certificate Program in Global Financial Markets by Future First          | 2025      |
| • McKinsey Forward Program Certification                                   | 2025      |