Raj M. Patel

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Professional Summary

Passionate Data Scientist and AI/ML enthusiast with a strong foundation in Python, SQL, and Deep Learning & Neural Networks (DL & NN). Experienced in Exploratory Data Analysis (EDA), Generative AI, and building intelligent systems. I also have web development skills using HTML, CSS, JavaScript, and PHP, enabling me to build full-stack data-driven applications. I thrive at the intersection of data and technology, turning insights into impactful solutions.

Education

- **10th Grade (GSEB)**

Shree M.B. Vamdot School

2020

- **12th Grade (HSEB)**

Shree M.B. Vamdot School

2022

- **B.E. in Computer Science & Engineering**

R.N.G. Patel Institute of Technology

2022 – 2026

Professional Experience

- **AI/ML Advanced Intern**

Code Unnati – AI/ML Program by SAP & Edunet Foundation
Duration: [1/7/25 to 12/7/25]

As an AI/ML Advanced Intern at Code Unnati, I am participating in an intensive hands-on internship focused on advanced topics in Artificial Intelligence and Machine Learning. The program involves solving real-world problems through data preprocessing, model building, and evaluation using Python and popular libraries such as Scikit-learn, TensorFlow, and Keras. I have developed and deployed projects covering supervised learning, deep learning, and Generative AI concepts. Throughout the internship, I've gained practical exposure to industry practices, version control using Git/GitHub, and collaborative development workflows. This experience has significantly strengthened my problem-solving skills and deepened my ability to apply data science knowledge in real-world scenarios.

- **Introduction to Generative AI**

LinkedIn Learning – In collaboration with Microsoft
Completed: [July,2025]

As part of my continuous upskilling, I completed a professional learning program on Generative AI through LinkedIn Learning. This course enhanced my understanding of foundational concepts such as large language models (LLMs), prompt engineering, and practical applications of generative models like ChatGPT and DALL·E. I gained hands-on insights into how Generative AI is transforming industries, and how to responsibly integrate it into real-world solutions. This experience strengthened my ability to think creatively and apply emerging AI technologies effectively.

Projects

- **EV Charging Station Location Optimizer**

  Description: A machine learning-powered web application that helps identify optimal locations for electric vehicle (EV) charging stations. Users upload CSV data containing location-specific features (e.g., time, demand, day of week), and the app processes this data through a trained model to predict whether each location is optimal for installing a charging station.

  Impact: This project supports sustainable EV infrastructure by using data-driven insights to identify optimal charging locations. It helps reduce deployment costs and enhances EV adoption by improving charger accessibility and reducing range anxiety.

  Tech Stack: The app uses Python with scikit-learn, pandas, and NumPy to predict optimal EV charging spots from User Inputs.

- **Dynamic School Website Portal for Student and Administrative Interaction**

  Description: This project is a dynamic school web portal designed to manage and present key academic and administrative information online. It features student registration and login, feedback submission, and displays activities, results, and staff info. The site includes an admin panel, image gallery for events, and is styled with custom CSS. Built using PHP for server-side functionality, it also includes a PowerPoint report as part of the documentation.

  Impact: This project enhances accessibility for students and parents, automates tasks like registration and feedback, and improves the school's online presence. It also offers a scalable base for future features like attendance, grading, and dashboards.

  Tech Stack: The project uses HTML, CSS, and PHP with basic session handling, likely connects to MySQL, and includes images and a PowerPoint for documentation.

- **Handwritten Character Recognition using Machine Learning**

  Description: This project involves building a machine learning model to recognize and classify handwritten characters. Using a Jupyter notebook, it likely preprocesses image data, extracts features, and applies algorithms such as CNNs or SVMs for accurate character classification. The aim is to enable machines to understand human handwriting, a crucial step toward digitizing handwritten documents.

  Impact: The project can automate the digitization of handwritten texts, helping in archival, educational tools, and real-time recognition systems. It reduces manual data entry errors and enhances accessibility for educational and administrative use.

  Tech Stack: The project uses Python with libraries like TensorFlow and Scikit-learn in Jupyter Notebook, and likely applies CNN or SVM for handwritten character classification.

- **Smart Irrigation**

  Description: The Smart Irrigation System is an IoT-based solution that automates watering processes based on real-time soil moisture levels, temperature, and environmental conditions. Built using an Arduino Uno and sensors (such as soil moisture, DHT11), it intelligently controls water flow to optimize irrigation. The system ensures efficient water use by activating only when needed and can optionally integrate with cloud platforms for remote monitoring and data logging.

  Impact: This project addresses water conservation in agriculture by reducing over-irrigation and ensuring timely watering based on crop needs. It helps farmers save water, reduce energy costs, and improve crop health. By integrating affordable hardware and automation, the system is especially beneficial for small-scale or resource-constrained farming communities aiming to adopt smart farming techniques.

  Tech Stack: Built using Raspberry Pi and Arduino, this system monitors soil moisture and controls water flow automatically or manually through a PHP and JavaScript-based web interface.

- **Check Safety in Industry**

Description: This project is a web-based safety assessment tool designed to evaluate potential hazards in industrial environments. Users can input details such as the process step, source of hazard, injury type, and hazard level. Using rule-based logic implemented in JavaScript, the application analyzes the data and provides real-time feedback on whether the condition is safe or unsafe. The interface is simple, user-friendly, and requires no technical background.

Impact: The tool helps reduce workplace accidents by enabling early detection of unsafe conditions. It empowers workers, supervisors, and safety officers to make informed decisions without relying on manual hazard assessments. By promoting awareness and quick evaluations, it contributes to a safer industrial environment and supports compliance with safety standards.

Tech Stack: The frontend is developed using HTML, CSS, and JavaScript with a modern UI. The core decision logic is implemented using rule-based evaluation in JavaScript.

Technical Skills

- **Programming Languages:** Python, Java, JavaScript, C, C++
- **Databases:** MySQL,MongoDB,SQLite
- **Machine Learning and Deep Learning:** Scikit-Learn, TensorFlow, PyTorch
- **Data Analytics & Visualization:** Pandas, Matplotlib, Seaborn, Tableau
- **Frontend Development:** React.js,React Native, BootStrap,CSS.HTML
- **Backend Development:** PHP,JavaScript

Soft Skills

- **Problem-Solving Skill**
- **Communication Skill**
- **Teaching Skills**
- **Continuous Learning**