Mit Soneshbhai Patel

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SUMMARY

B.Tech CS student passionate about AI, machine learning, and purposeful learning. I follow the Golden Circle approach—knowing Why, How, and What Next—to guide my growth and problem-solving. Currently exploring fundamental AI concepts and practical applications, with a focus on bridging theory and real-world projects.
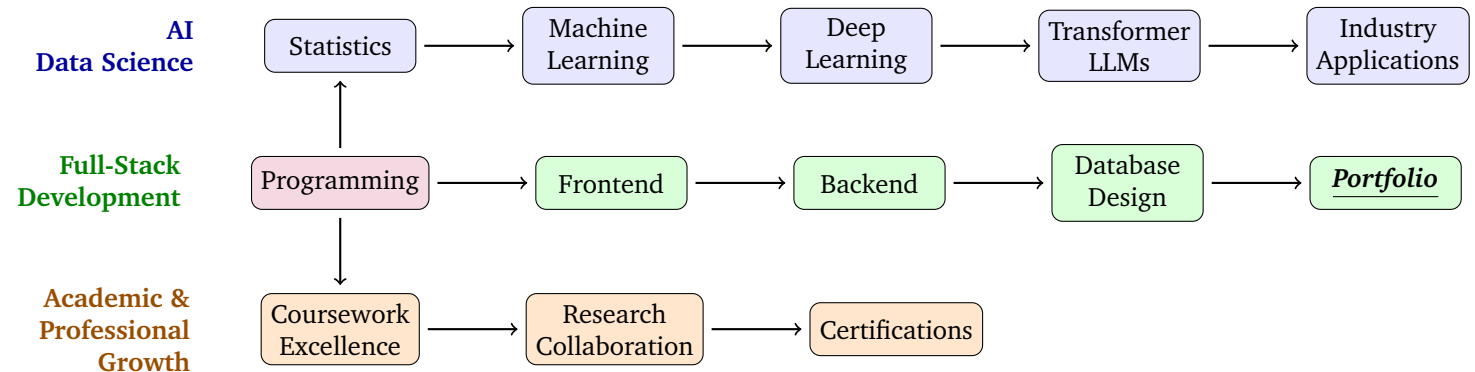
EDUCATION

Pandit Deendayal Energy University   **August 2023 – May 2027**
Bachelor of Engineering, Computer Science   *CGPA: 8.84/10.00*

LEARNING JOURNEY

AI Data Science: Statistics → Machine Learning → Deep Learning → Transformer LLMs → Industry Applications

Full-Stack Development: Programming → Frontend → Backend → Database Design → *Portfolio*

Academic & Professional Growth: Coursework Excellence → Research Collaboration → Certifications

TECHNICAL SKILLS

Programming Languages: Python, R, C/C++, Java

AI & Machine Learning: Linear/Logistic Regression, Decision Trees, Random Forests, KNN, SVM, Naïve Bayes, XGBoost, Neural Networks (ANN, CNN, RNN), Transformer Arch., Feature Engineering, Hyperparameter Tuning

Model Evaluation & Metrics: Accuracy, Precision, Recall, F1-Score, ROC-AUC, Confusion Matrix, Cross-Validation, MSE, RMSE, MAE, R^2 Score

Frameworks & Libraries: Numpy, Pandas, Matplotlib, Seaborn, scikit-learn, TensorFlow, OpenCV, Pillow

Databases: MySQL, PostgreSQL

Web Development: Flask, JavaScript

Development Tools: Git, GitHub, Google Colab, Jupyter Notebook, VS Code

Data Science & Analytics: Data Cleaning, Statistical Analysis, Data Visualization (Tableau, Power BI)

Core Competencies: Data Structures & Algorithms (DSA), Object-Oriented Programming (OOP), Research Thinking, Collaborative Development, Problem Solving

PROJECTS

Movie Recommender System (Content-Based Filtering) | *Github link*   **June 2025**
- Built content-based movie recommender using NLP feature engineering on 4.8K+ movies (cast, crew, genres, synopses).
- Applied Count Vectorizer and Cosine Similarity to compute similarity scores between movies based on content features. Surfaced personalized recommendations by identifying and ranking the most similar movies for enhanced experience.
- Combined data from cast, crew, genres, and synopses to build rich feature vectors for enhanced recommendation accuracy. Engineered comprehensive features by merging multiple data sources to capture movie characteristics effectively.
- Built a user-friendly web app with Flask to display recommendation system and explain results clearly and visually.

Email Spam Classifier (TF-IDF & Logistic Regression Based) | *Github link*   **December 2024**
- Developed an email spam classifier using logistic regression and TF-IDF, achieving an F1 score of 0.98 on test data.
- Engineered TF-IDF features and trained a Logistic Regression model to accurately classify emails as spam or not spam.
- Preprocessed and cleaned over 5,500 email messages by removing noise, handling missing values, and standardizing text format.Enhanced model training efficiency and achieved significantly better performance through rigorous preparation.
- Developed and Deployed a Streamlit web app that provides real-time, easy-to-use spam detection for email messages.

Customer Churn Prediction (Data Preprocessing & Neural Network Based) | *Github link*   **June 2025**
- Developed a customer churn prediction web app for telecom data with a deep neural network, achieving 0.79 F1 score.
- Cleaned and prepared customer data by fixing errors, handling inconsistencies, and filling missing details using imputation techniques. Ensured data quality and integrity throughout the pipeline for accurate and reliable analysis.
- Enabled users to check one or multiple customers at once, and easily download all prediction results in the app.
- Identified key factors causing customer churn including contract types and monthly charges through exploratory data analysis.Visualized findings with clear and intuitive charts to communicate insights effectively for data-driven decisions.