Niramay M. Patel

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Education

Indian Institute of Science Education and Research (IISER), Bhopal *August 2023 – Present*
BS in Engineering Science (to do Computer Science)

- CPI: 9.46/10.0
- **Completed Courses:** Linear Algebra, Calculus, Multi-variable Calculus, Discrete Mathematics.
- **Ongoing Courses:** Data Structure and Algorithm, Probability and Statistics, Signals and System.

Atmiya Vidya Mandir, Surat, Gujarat *Passed in March 2023*

- CBSE Std. 12 Result: 94.8%

Experience

Research Intern (*Remote*) *IIT Roorkee, India*
Prof: Dr. Raksha Sharma *January 2025 – Present*

- Developed end-to-end pipeline for fine-tuning Automatic Speech Recognition and Machine Translation models (Whisper and IndicTrans2).
- **Problem Statement:**
  Develop a robust Speech-to-Text Translation (ST) model for low-resource Indian languages (Hindi, Bengali, Tamil) that accurately converts spoken English into written text in these languages.

Project Intern *Remote*
Personifwy *March 2024 – May 2024*

- Engineered a **Hate Speech Detection System** using Decision Tree Classifier with an accuracy of **88%**.
- Developed a **Spam SMS Classifier** utilizing the Naive Bayes machine learning algorithm, which reduced unsolicited message complaints.
- Conducted a comprehensive credit EDA (Exploratory Data Analysis) to analyze raw data to determine factors influencing creditworthiness.
- **Skills Acquired:** NumPy, Pandas, Matplotlib, Seaborn, Regular Expressions (re), scikit-learn, Data Preprocessing, Model Training, Performance Evaluation Techniques.

Projects

Visual Odometry *github repo* ↗
Project, December 2024

- Estimated the camera's motion from a sequence of images, a crucial task in autonomous driving and SLAM. I successfully reconstructed the **vehicle's trajectory** and evaluated the accuracy using ground truth data.
- Tools used: Python, OpenCV, Physics, Feature extraction and matching.

Bollywood Celebrity Face Matching *github repo* ↗
Personal Project, December 2024

- A **transfer learning** project utilizing pre-trained ResNet50 CNN to match an uploaded face with the most likely Bollywood celebrity.
- Tools used: Python, CNN, Deep Learning, Streamlit, Scikit-learn.

Credit EDA *github repo* ↗
Personifwy Internship, October 2024

- Performed EDA on data sets with more than **300,000 rows and 122 columns**. It involves exhaustive data preprocessing, visualization and analysis. Finally, a Logistic Regression model is trained to verify the effectiveness of the data preprocessing steps.
- Tools used: Jupyter Notebook, NumPy, Pandas, Matplotlib, Scikit-learn

Personal Website *github repo* ↗

Personal Project, June 2024

- ○ Developed a personal portfolio website and hosted it on Render for seamless deployment and accessibility.
- ○ Added interactive elements and dynamic design to make it appealing.
- ○ Tools used: HTML, CSS, JavaScript, GitHub

Certifications

Machine Learning Specialization *by Stanford University and DeepLearning.AI* *certificate* ↗

- ○ **Topics covered:** Supervised Machine Learning, Advanced Learning Algorithms, Unsupervised Learning, Recommenders, and Reinforcement Learning.

Co-Curricular and Extra-Curricular

- ○ Proposed an **AI based Dynamic Bus route rationalization** model that would be required based on real-time traffic and road parameters for the **Delhi Government** in Smart India Hackathon.

- ○ Secured a rank **under 500** as a College Ambassador for **Techfest, IIT Bombay.**

- ○ Attended seminar on **HyWay: Hybrid Hallway** by Dr.Venkat Padmanabhan, Managing Director at **Microsoft Research India.**

- ○ Participated in panel discussion during **Industry-Academia conclave 2025** at IISER Bhopal.

- ○ Developed a dynamic frontend for a **bus travel management website** for the institute.

- ○ Was a part of **core committee** in organizing Navaratri event for two days.

- ○ I enjoy playing table tennis, badminton, and cricket to relax during my free time.