

# Pranshav Patel

Ahmedabad, Gujarat, India 380059 • +91 8128652283 • [pranshavpatel1803@gmail.com](mailto:pranshavpatel1803@gmail.com) • [LinkedIn](#) • [GitHub](#)

## EDUCATION

### Nirma University

B.Tech Computer Science Engineering

Cumulative GPA: 8.30/10; Certificate of Scholar, 3rd Semester

Ahmedabad, In

2021-Present

### Puna International School

HSC, CBSE: 85.4%

Ahmedabad, In

2021

## WORK EXPERIENCE

### Machine Learning Intern | Reway Technologies

Remote

LLM Developer | Langchain, MistralAI, Pinecone

Jan, 2024 - Present

- Engaged as a Large Language Model (LLM) Developer, focusing on building a cutting-edge Question Answering chatbot using Retrieval Augmented Generation.
- Leading the initiative to enhance customer interactions on the company website, providing quick, accurate, and comprehensive responses to inquiries about environmentally-focused products and services.
- Working closely with technical and non-technical teams to ensure seamless integration of the chatbot into the existing digital platform, enhancing user experience.

## PROJECTS

### Reverse Image Search using Image Captioning | PyTorch, Transformer, Transfer learning

- Developed an Image Captioning model as the underlying architecture of the model. Transformer was used to develop the image encoder text decoder model to generate captions which provides the best accuracy compared to other RNN encoder-decoder models.
- Used DuckDuckGo API to search for similar images using the caption generated.
- Optimized model performance, achieving a notable validation loss of 1.133 and a validation perplexity of 3.105, demonstrating exceptional accuracy and predictive reliability.

### Duplicate Question Pairs | NLTK, Word2Vec, spaCy

- Developed an intelligent model for identifying duplicate question pairs, addressing the issue of redundancy in question-and-answer platforms like Quora.
- Leveraged Natural Language Processing (NLP) techniques and machine learning algorithms to accurately determine if two input questions carry the same meaning, contributing to improved content quality and user experience on the platform.

## SCHOLARLY WORK

### Zero/One/Few Shot Learning for Hyperspectral Image Classification

Ongoing

- Conducted research on novel approaches to hyperspectral image classification, focusing on zero, one, and few-shot learning techniques. Explored innovative methods to improve classification accuracy in scenarios with limited labeled data.
- Currently writing the survey paper.

### Audio Data Augmentation for Improved Model Generalization

Ongoing

- Conducted research on audio data augmentation techniques, including Raw Audio Perturbation (noise addition, pitch shift, time shift, time stretch), SMOTE, and spectrogram transformations (time warp, time mask, freq mask). Investigated methods to enhance model performance in audio-related tasks.
- Currently involved in ongoing research to explore the use of Generative Adversarial Networks (GANs) to generate artificial data for improving model generalization

## ACTIVITIES & LEADERSHIP

### Computer Society of India, Nirma University

Ahmedabad, In

Executive Committee Member

Nov 2022 - Present

- Contributed to organize various informative sessions and orientations for the college students.
- Helped organize an inter-college national hackathon 'HACK-NU-THON 4.0'.

## ADDITIONAL

**Skills:** PyTorch, Tensorflow, Keras, Computer Vision, NLP, Python, Javascript, SQL, Java, C++, Scikit-learn, FastAPI, Git/GitHub, Transformers, CNNs, GPT/BERT, RNNs/LSTMs, LLM, Langchain, RAG, Transfer Learning, GANs, Diffusion Models, Leadership, Communication, Team Work, Observation

### Achievements:

- Achieved 98.7%ile in JEE Mains in 2021
- Cleared the prestigious JEE Advanced Examination in 2021
- Received Gold Medal twice in International Mathematics Olympiad