Prey Patel
Final Year B. Tech
Dual Major in Civil Engineering with
Computer Science and Engineering

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Education

Degree	Institution	CPI/%	Year
B. Tech	IIT Gandhinagar	8.07	2020-Present
Class XII	My Shanon School, Vadodara	78.6	2019-2020
Class X	JJI School, Thermal	94.6	2017-2018

Internships and Projects

- **AI Engineer Intern, Silver Touch Tech. Ltd. (link)** **[June-July 2024]**
  - Contributed to the development of MyBotGenie, an LLM-based chatbot using a RAG pipeline to automate support-bot creation for websites.
  - Enhanced model performance by fine-tuning the LLM using PEFT methods such as QLoRA on a hybrid dataset created to improve context-based generation.
  - Integrated Indic-trans2 model for multilingual support, optimizing chatbot performance for Indic languages.
  - Designed an FAQ system to deliver accurate responses, reducing response time by up to 80% on similarity hits.
  - Strengthened LLM knowledge and improved development skills through integration and optimization.

- **Solo Project, Chain Reaction: Web-Based Multiplayer Board Game (link)** **[March-May 2023]**
  - Created a web-based multiplayer board game, "Chain Reaction", using Django and React.
  - Implemented local and online multiplayer modes, allowing players to engage in random matchmaking or challenge friends for competitive play.
  - Leveraged WebSockets for real-time gameplay updates and in-game chat functionality.
  - Utilized Django models for efficient data management of user information, friend relations and game statistics.
  - Enhanced full-stack web development skills using Django and React, and web deployment using Nginx server.

- **Summer Intern, IIT Gandhinagar** **[May-July 2022]**
  - Worked under Professor Nipun Batra, focusing on Hidden Markov Models in machine learning applications.
  - Implemented essential HMM components, including HMM sampling, the Viterbi algorithm, and parameter estimation using Baum-Welch algorithm.
  - Contributed to the enhancement of Dr. Kevin Murphy's book repository on GitHub, resolving workflow errors and transforming generated plots into LaTeX format to ensure improved readability.
  - Utilized libraries such as JAX, matplotlib, seaborn, and TensorFlow to create visually appealing and insightful data visualizations, enhancing the overall presentation.

- **Solo Project, Price Predicting Transformer** **[Jan-March 2024]**
  - Developed a Transformer-based model for short-term price prediction using time-series data, improving intraday trading forecasts.
  - Designed a Transformer model based on "Attention Is All You Need" paper with over 1 million parameters.
  - Trained the model using time-series data for Nifty-based indices, collected over a period of 6 months.
  - Gained expertise in creating Transformer models with PyTorch, enhancing the ability to model complex sequential data.

Skill Summary

- **Programming Languages:** Python, C++, C
- **Libraries and Frameworks:** Django, React, PyTorch, NumPy, Pandas, Matplotlib
- **Technologies and Tools:** Git, Linux, Nginx, MySQL

Hobby and Interests

- Skilled in creating realistic 3D models and animations using Blender software.
- Enjoy playing chess.