# Hitesh Kumar Patel

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## EDUCATION

**VIT Bhopal University**                                                                         Bhopal, Madhya Pradesh
Bachelor of Technology in Computer Science and Engineering — CGPA: 9.18/10.0          Aug 2023 – Aug 2027
*Relevant Coursework:* Data Structures & Algorithms, Machine Learning, Database Management Systems

**O.P. Jindal School Savitrinagar**                                                                 Tamnar, Chhattisgarh
12th Standard CBSE — Percentage: 94%                                                          July 2020 – July 2021
*Subjects:* Mathematics, Physics, Chemistry, Computer Science

## EXPERIENCE

**AI/ML Intern**                                                                                      May 2025 – June 2025
*O.P. Jindal Group*                                                                                   Tamnar, Chhattisgarh

- Developed and deployed AI-powered CCTV surveillance systems using computer vision algorithms for industrial security monitoring, improving automated threat detection accuracy by 40% across multiple facilities
- Managed comprehensive end-to-end deployment including physical installation of 50+ IP cameras, network configuration of Hikvision NVRs, and integration of PoE switches for seamless data transmission

## PROJECTS

**Deepfake Detection System** — *Python*                                                              Jan 2025 – Feb 2025

- Built robust deepfake detection system using advanced 2D Convolutional Neural Networks and transfer learning techniques, achieving 92% accuracy on dataset of 50,000+ real and synthetic facial images
- Implemented sophisticated image preprocessing pipeline with data augmentation strategies and feature extraction methods to detect subtle deepfake artifacts and inconsistencies
- Optimized model architecture using hyperparameter tuning and regularization techniques, reducing inference time by 25% while maintaining high detection precision for real-time applications

**Drug Review Sentiment Analysis Platform** — *Python*                                                 Oct 2024 – Dec 2024

- Developed comprehensive web application for pharmaceutical sentiment analysis using advanced NLP techniques on 161,218 patient drug reviews from Kaggle dataset, achieving 90% classification accuracy
- Implemented feature engineering and text preprocessing pipeline including tokenization, lemmatization, and TF-IDF vectorization for optimal model performance
- Created interactive data visualizations and statistical dashboards using Matplotlib and Seaborn to analyze drug effectiveness patterns, side effects correlation, and patient satisfaction trends
- Deployed production-ready Streamlit interface with real-time prediction capabilities, enabling healthcare professionals to efficiently analyze patient feedback and drug efficacy

## TECHNICAL SKILLS

**Programming Languages:** Python, C++, SQL
**Machine Learning & AI:** TensorFlow, Keras, Scikit-learn, LightGBM, Computer Vision, Natural Language Processing, Deep Learning, Convolutional Neural Networks, Transfer Learning
**Tools & Platforms:** Git, GitHub, Jupyter Notebook, Google Colab, VS Code, Streamlit
**Database Management:** MySQL
**Data Analysis & Visualization:** Pandas, NumPy, Matplotlib, Seaborn, OpenCV
**Languages:** Hindi (Native), English (Fluent)

## CERTIFICATIONS & ACTIVITIES

**Professional Certifications:**

- Machine Learning Specialization - Stanford University & DeepLearning.AI (Coursera)
- Machine Learning A-Z with Python & R (Udemy)
- Deep Learning A-Z with Artificial Neural Networks (Udemy)

**Competitive Programming:** Active contributor on LeetCode with 100+ algorithmic problems solved across easy, medium, and hard difficulty levels