KETAN PATHADE

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Education

VIT Bhopal University **2022 – 2026**
B.Tech in Computer Science and Engineering *CGPA: 8.32/10*

Technical Skills

Languages: C++, Python, JavaScript, SQL
Web Technologies & Frameworks: MySQL, Pandas, NumPy, Scikit-learn, TensorFlow, PyTorch, Matplotlib, Seaborn, Tableau, Power BI
Developer Tools: Git, GitHub, Jupyter Notebooks, Google Colab, Vercel, Netlify, AWS,Cloudinary,n8n.

Experience

Generative AI for Personalized E-commerce Customer Segmentation **Mar 2025 – May 2025**
Runner-up, GeeksforGeeks

- Conducted exploratory data analysis (EDA) on an e-commerce dataset; engineered features like total spend, order frequency, and return ratio.
- Applied K-Means clustering to segment customers into five behavioral groups using RFM-like metrics.
- Utilized OpenAI GPT API to generate personalized marketing strategies for each customer segment.
- Proposed targeted actions including loyalty programs, exclusive deals, and product recommendations to boost retention and conversion rates.

Projects

Revenue Forecasting with Machine Learning — Walmart Store Sales **May 2023 – Aug 2023**
Python, scikit-learn, XGBoost, statsmodels, Power BI

- Built a predictive ML pipeline to forecast weekly sales for 45 Walmart stores (2010–2012) using Random Forest, XGBoost, and SARIMAX; engineered lag, rolling average, and seasonality features with hyperparameter tuning (CV, RMSE).
- Integrated `stores.csv`, `train.csv`, and `features.csv`; cleaned missing markdowns, modeled holiday/promo impacts, and delivered interactive Power BI dashboards, improving inventory planning and markdown scheduling.

Lane Detection System (AI-ML-DL Project) **Nov 2023 – Jan 2024**
Computer Vision Project

- Developed a real-time lane detection system using OpenCV to enhance driver safety in autonomous vehicles.
- Implemented image preprocessing, Canny edge detection, and Hough Transform for accurate lane line identification.
- Achieved detection accuracy of ∼92% on test videos under varying lighting and weather conditions.
- Optimized algorithm to run at 25+ FPS on standard hardware, suitable for real-time deployment.

Pneumonia Detection Web Application(AI-ML-DL Project) **Feb 2024 – Apr 2024**
AI/ML Project

- Built a convolutional neural network (CNN) model using pre-trained VGG16 architecture to classify chest X-ray images.
- Developed a Flask-based web app that allows users to upload X-rays and receive real-time pneumonia detection results.
- Achieved classification accuracy of 90%+ on validation datasets, demonstrating strong diagnostic potential.
- Designed user-friendly interface for doctors and patients with image upload, prediction display, and confidence scores.

Certifications

- NPTEL – Cloud Computing.
- Ethnus – Amazon Web Services Internship Training Certificate