Saarthak Gupta

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EDUCATION

- **Indian Institute of Technology(BHU)** — Varanasi, India
  Integrated Dual Degree in Mechaincal Engineering; CGPA: 8.33 — 2022-2027
- **S.R.D.A.V. Public School** — Delhi, India
  CBSE(Class XII); CGPA: 93.8% — 2022

SKILLS

- **Languages:** Python(pandas, numpy, matplotlib, seaborn), SQL
- **Frameworks:** Langchain, HuggingFace, Pinecone, scikit learn, tensorflow, keras
- **Tools:** git, Mysql, excel, powerBI

PROJECTS

CLV PREDICTION FOR AUTO-INSURANCE COMPANY | LINK

Developed a comprehensive Customer Lifetime Value (CLV) prediction model **to improve customer retention and marketing strategies**, leading to more informed business decisions.

- Leveraged machine learning techniques to predict CLV, optimizing hyperparameters with GridSearchCV for accurate predictions.
- Conducted comprehensive data preprocessing **followed by detailed EDA using statistical summaries, distribution analysis, and visualizations** to uncover insights.
- Created a web interface and dashboard for CLV predictions and customer insights, and **implemented a Q&A platform using Google's Gemini LLM to facilitate natural language queries**, enhancing marketing strategies and customer retention efforts.

MEDICAL CHATBOT | LINK

The objective was To **develop a medical chatbot capable of answering user queries** related to medical information and providing relevant resources in a timely and accurate manner, **utilizing natural language processing** and information retrieval techniques.

- Extracted and preprocessed text from medical PDFs using Langchain.
- Used **Hugging Face embeddings and Pinecone for efficient similarity search**.
- Developed a custom PromptTemplate and used CTransformers model for conversational responses. Created a user-friendly interface for interaction.

EKYC | LINK

The objective was To develop an advanced EKYC (Electronic Know Your Customer) verification system using RCNN and DeepFace for robust customer authentication and identity verification.

- Implemented contour detection to extract ID card images. Enhanced OCR accuracy with **RCNN (easyocr) for text detection and CRNN-CTC for text recognition**.
- Utilized **DeepFace for accurate face comparison, ensuring seamless verification** and reducing fraudulent activities.
- Built a user-friendly interface using Flask to streamline the EKYC process, enabling efficient customer registration and verification.

HONORS AND AWARDS

- 2nd runner up in HackFest, a National data science competition conducted by Tredence Analytics.
- Finalist in Convolve (PAN IIT Data Science event).
- Data Science author for level up coding on Medium.