ADITYA KUMAR CHOUDHARY

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EDUCATION

Indian Institute of Technology , Bombay (IITB)   **Mumbai, MH**
Btech , Metallurgical Engineering and Material Science   Cumulative CPI : 7.2

TECHNICAL SKILLS

- **Programming Languages :** Python , C++ , JAVA ,R , MATLAB
- **ML & Deep Learning   :** TensorFlow, PyTorch, Keras, LSTM, CNN, DistilBERT, Transfer Learning, Fine-Tuning, Scikit-Learn, NLTK
- **Data Science & Analytics :** Pandas, NumPy, Matplotlib, Seaborn, Tableau, Regression, Cross-Validation Feature Engineering
- **Computer Vision   :** OpenCV, PIL, CNN, ResNet18, MediaPipe, Image Segmentation
- **NLP   :** Hugging Face, LSTM, DistilBERT, Sentiment Analysis, Gradio
- **Databases   :** SQL , PostgreSQL
- **Frontend   :** React.Js ,Three.Js ,Vue.Js, Blender, Maya

PROJECTS

Image Segmentation Model | Analytics Club , IIT B
- Developed and implemented UNet and SAM for image segmentation on the Carvana dataset.
- Leveraged PyTorch and Albumentations for data transformations, optimizing training using mixed-precision training
- Achieved 99.20% accuracy and 0.0888 loss, with precision (0.9718), recall (0.9909), and F1 score (0.9812).

Language Translation Using Hugging Face | Analytics Club , IIT B
- Fine-tuned the Helsinki-NLP/opus-mt-en-de transformer model for English-to-German translation using the WMT16 dataset
- Implemented custom tokenization and trained the model for 3 epochs, reducing training loss from 1.210 to 1.096.
- Developed a user-friendly translation demo using Gradio, enabling real-time text input and translation output..

Credit Card Fraud Detection | Self Project
- Predicted fraudulent credit card transactions using the Kaggle dataset, addressing class imbalance through random undersampling and outlier removal.
- Conducted analysis and comparison of multiple models, including Logistic Regression, SVM, KNN, and Decision Trees.
- Performed hyperparameter tuning for Random Forests and XGBoost using GridSearchCV and Stratified K-Fold cross-validation.
- Achieved 95.7% accuracy and an F1-Score of 0.924 for fraudulent transactions using the Random Forests algorithm.

EXTRACURRICULAR

- Placed in top 5 in Codewars out of 50+ competitive teams under WnCC   ('23)
- Participated in EnB-BuZZ Developed and brainstormed a pitch deck in outlining innovative   ('22)
  strategies aimed at enhancing viablity and profitability of edu-institutions Covid era
- Completed Winter in Data Science BootCamp initiated by the Analytics Club   ('23)
- Performed in Annual Insync Dance Showcase and won 3rd Prize in Dance Competition   ('23)