Project Report: Hugging Face NLP Model Demo

Project Title

Hugging Face-based NLP Model Demonstration

Objective

The objective of this project is to demonstrate how to build and deploy a Natural Language Processing (NLP) model using the Hugging Face Transformers library. The goal is to showcase how pre-trained models can be fine-tuned and used for various language-based tasks like sentiment analysis, text classification, or summarization.

Tools & Technologies Used

- Python 3.x
- Hugging Face Transformers
- Google Colab / Jupyter Notebook
- pandas / numpy
- Matplotlib / Seaborn (optional)

Dataset

A sample dataset (possibly a CSV or JSON file) was used for demonstration purposes. The dataset contained text entries for classification or sentiment prediction.

Steps Demonstrated in the Video

1. Installing Required Libraries
2. Loading a Pre-trained Model
3. Loading and Preparing the Dataset
4. Model Training or Inference

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5. Evaluation and Visualization

6. Exporting or Saving the Model

Output

The output includes predictions on text data using the Hugging Face model. Screenshots or real-time video output demonstrates how the model classifies or processes natural language input.

Conclusion

This project successfully demonstrates how powerful and accessible Hugging Face's transformer models are for building NLP applications. With just a few lines of code, high-performance models can be implemented and deployed.

Future Enhancements

- Integrate with a front-end interface or chatbot
- Deploy using Hugging Face's Inference API
- Use a larger or domain-specific dataset for improved performance