
Comprehensive
Article Analyzer

Project Description

Objective

Use NLP for sentiment analysis on political and current event articles, identifying emotional tone and public opinion trends.

Main Features

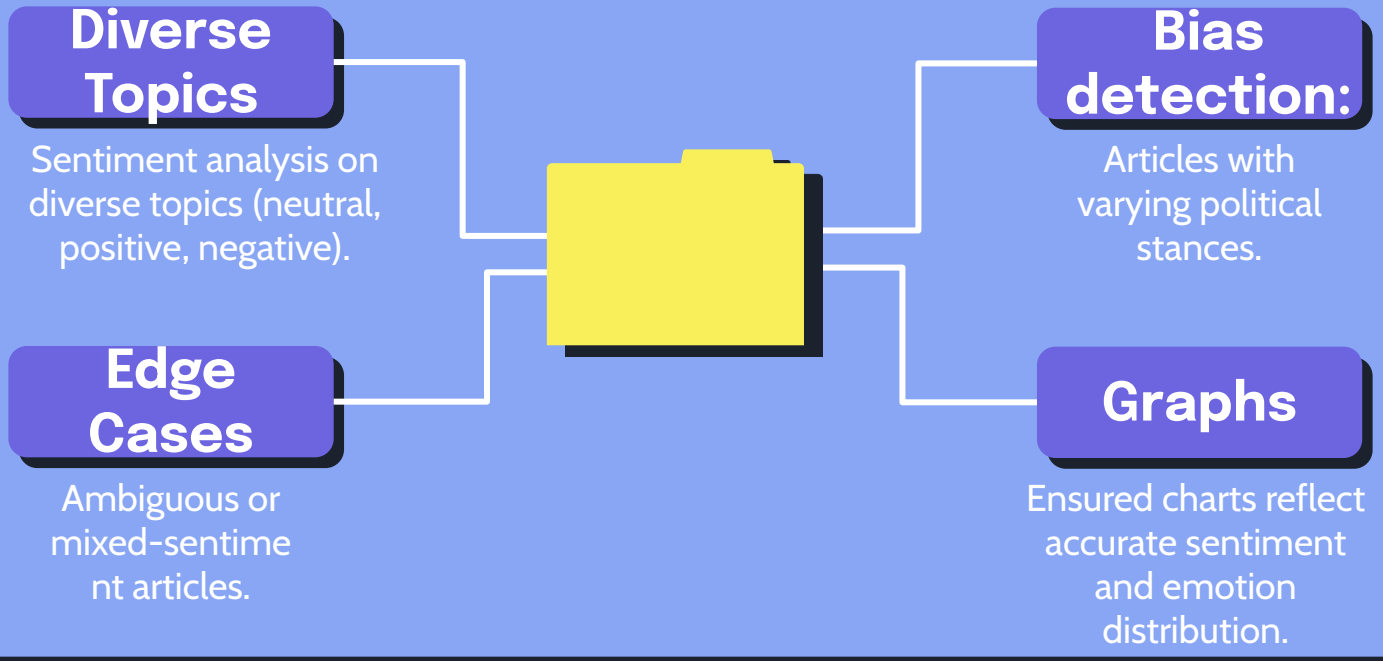
Input: Text, URLs, PDFs, MP3s (transcribed), multiple PDFs.

Output: Sentiment analysis, bias detection, emotion analysis, and summarization with visualizations.

AI Components

Leveraging models from NLP libraries (spaCy, NLTK, Hugging Face Transformers) for analysis and summarization.

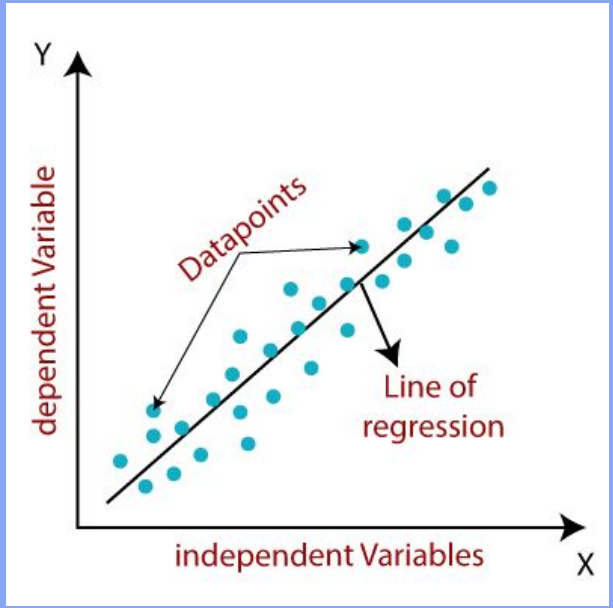
How we tested



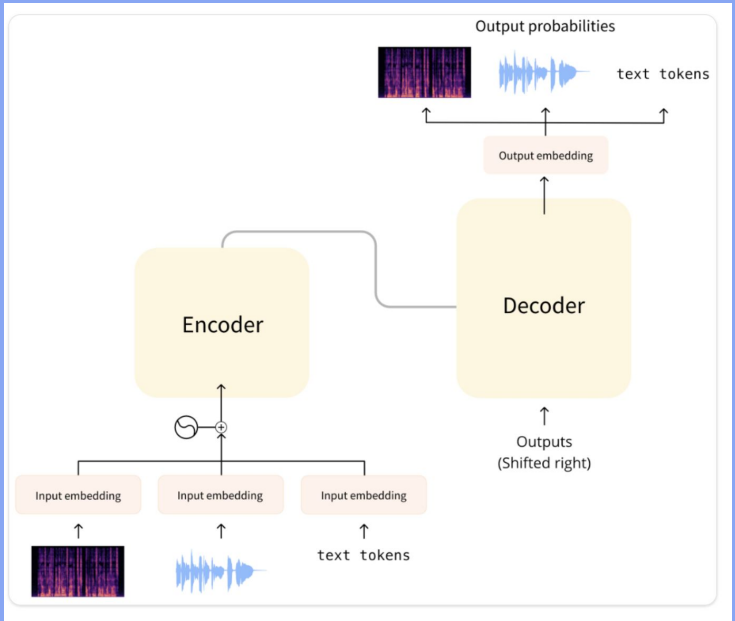
Project Design

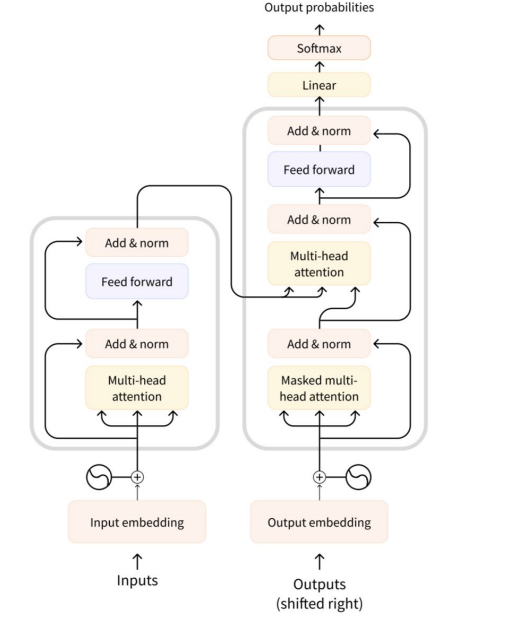
Architecture	Frontend: Streamlit for user interaction and visualizations.	Backend: Python, integrating NLP models and MongoDB for storage.
Components	NLP preprocessing: spaCy. Sentiment Analysis: NLTK, Hugging Face models.	Data storage: MongoDB. Visualizations: Matplotlib.
Updates	Expanded input types and real-time analysis capabilities.	Enhanced visualizations for emotions and bias.

Initial Linear Model



Hugging Face Transformer





Our analysis

Challenges

Performance of models on large inputs.

Extensions

Real-time trend analysis using larger datasets.

Extensions

Enhanced bias detection with more granular categories.

Extensions

Multilingual support for articles.

DEMO

Requirements.txt
streamlit run finalProject.py