Sentiment Analysis for Financial News

Team Information

Team Name: Finance bros
Members:

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Project Topic

Sentiment Analysis for Financial News Articles: The objective is to classify the sentiment of financial news as positive, negative, or neutral to assist investors and market analysts in making informed decisions.

Repository Link

https://github.com/kezouke/Sentiment_Analysis_for_Financial_News

Progress Overview

Completed Work

- **Exploratory Data Analysis (EDA):**
  - Explored the *zeroshot/twitter-financial-news-sentiment* dataset.
  - Categorized sentiments into three labels: Bearish, Bullish, and Neutral.

Data Description

The dataset consists of financial news articles labeled with sentiment indicators:

- **LABEL_0: Bearish**
  - Indicates negative sentiment toward financial assets or market conditions.
- **LABEL_1: Bullish**
  - Represents positive sentiment.
- **LABEL_2: Neutral**
  - Signifies a neutral sentiment without strong bias.

Importance of Sentiment Labels

Understanding these sentiment labels is crucial for various applications, including:

- **Investment Decisions:** Assists investors in gauging market sentiment.
- **Market Analysis:** Analysts can predict market movements based on sentiment trends.
- **Automated Trading Systems:** Can be integrated into algorithms for real-time decision-making.

Scripts Used

Scripts and Libraries:

- Libraries: Pandas, Matplotlib, Seaborn, sklearn
- Scripts: Sentiment Label Distribution, Distribution of News Article Lengths, Text Length Distribution by Sentiment Label, Word Cloud for Sentiment Labels, Top Words in Sentiment-Specific Articles

Intermediate Results

Findings:

- All finding are in data_exploration.ipynb

Work Distribution

Team Responsibilities:

- **Maxim Martyshov:** Data acquisition and preprocessing
- **Elisey Smirnov:** EDA and visualization
- **Roman Makeev:** Model development and evaluation