

Stock Market Price Prediction Using NLP with Sentimental Analysis

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Abstract: *Stock Many people use stock investments as a means of increasing their wealth. However, market downturns can cause huge losses and need to be predicted for a timely sell. In fact, with effective prediction, stocks are a good investment even during periods of market volatility as many stocks are —on sale. News is a significant signal source for changes in stock prices. However, stock analysts usually adjust their analysis according to the news in a subject manner, and wrong judgments can cause investors huge losses. Twitter is a terrific place to find breaking news and gets stock trend information in real time. Because there are so many Twitter users, news on the platform frequently has a significant impact on the market. In order to promptly incorporate Twitter news about a company into a time series prediction model on the company's stock price, this study suggests a data-driven pipeline. Our method, known as BERT-LSTM (BELT), uses the cutting-edge natural language processing (NLP) model BERT to extract useful features on stock price direction from Twitter news. These features are then used as covariates to a many-to-many stacked LSTM model that also uses historical stock prices to predict the direction of future stock prices. We adjust BERT using a carefully vetted stock news collection to. It is possible to efficiently identify the news tweets that are pertinent and to extract NLP elements that are predictive of price changes. In order to create a data-driven and objective pipeline to include news signals and prevent subjective analysis, all model parameters are trained from beginning to end. Extensive experiments on real stock prices and Twitter news show that BELT is able to predict stock prices more accurately utilizing news information than if historical price data are utilised alone for prediction, and outperforms StockNet, the state-of-the-art system for predicting news-based stock movement.*

Keywords: Stock Market

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