

Analisis Sentimen Data Twitter terhadap Saham Bank Central Asia (BBCA) Menggunakan Model RNN dan CNN dengan Ekspansi Fitur GloVe

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Abstract

Since the Covid-19 pandemic in recent years, investing in stocks has become one of the things that people have grown more interested in. Factors that can affect stock price movements, including corporate policies and public opinion. These issues frequently discussed on social media. In order to determine how much of an impact sentiment had on the fluctuation of the stock price, sentiment analysis on Twitter was utilized for monitoring the movement of Bank Central Asia (BBCA) stock prices to find the correlation. This study uses the Recurrent Neural Network (RNN), Convolutional Neural Network (CNN) and RNN-CNN hybrid deep learning methods with the Terms Frequency - Inverse Document Frequency (TF-IDF) extraction feature and the Global Vector (GloVe) expansion feature with top 1, top 5, top 10, and top 15 similarity from tweet, news, and tweet+news corpus. The dataset used in this study is data from Twitter with 3 different categories of sentiment labels, namely positive, negative, and neutral. The highest accuracy in each model is 76,18% for RNN, 75,00% for CNN, and the highest accuracy is 76,29% produced by hybrid RNN-CNN method with top 5 tweet corpus similarity. This study finds a strong correlation between twitter positive sentiment and BBCA stock price movement, and a moderate correlation with the negative sentiment using the spearman correlation.

Keywords: Sentiment Analysis, Hybrid, RNN, CNN, Stocks
