

Abstract

Stocks are a component of a company's ownership, entitling the owner to profits and assets. The value of a company's shares increases or decreases with its overall worth. Due to their higher returns and potential for development when compared to other investment products, stocks are an essential component of every portfolio. Predicting stock prices can yield profits. However, because shares move quickly over time, there are challenges in predicting stock prices. The author of this final project will utilize graph mining using Pearson correlation and Louvain method community detection to study the stock price movements of over 500 firms on the PT Bursa Efek Indonesia website using Pearson correlation and the Louvain community detection approach.

In short, correlation is a statistical measure that describes the degree to which two variables change simultaneously in linear fashion. The Pearson correlation coefficient is the most often used correlation metric. There is also a technique used in network analysis is called community detection, which finds groupings or communities of nodes in a network that have similar characteristics or patterns of connections. The author used historical daily closing data from July 2019 to July 2021 for this final assignment.

Keywords: stock price, Pearson correlation, community detection, Louvain method

