Introduction: The stock market is one of the most volatile and dynamic investment vehicles, where the prices of stocks can change quickly based on a variety of factors such as market trends, economic indicators, and company-specific events. As such, it is important for investors to be able to predict stock prices to make informed investment decisions.

Problem Statement: Predicting stock prices accurately is a complex task, as there are many factors that can influence stock prices. Despite the availability of various financial tools and models, there is still a need for more accurate and reliable stock price prediction models.

Motivation for the Solution: The development of an accurate stock price prediction model can help investors make more informed investment decisions, and ultimately lead to increased investment returns. Additionally, a reliable stock price prediction model can help investors identify potential investment opportunities and avoid losses.

Methodology: The proposed project will use historical stock price data from the S&P 500 Index dataset on Kaggle to build a stock price prediction model. The data will be pre-processed and analyzed to identify trends and patterns that can be used to make predictions. The stock price prediction model will be developed using machine learning techniques, such as regression analysis, time-series forecasting, or artificial neural networks.

Technology to be used:

* Python programming language
* Pandas library for data pre-processing and analysis
* Matplotlib library for data visualization
* Scikit-learn library for machine learning
* TensorFlow or Keras library for artificial neural network models

References:

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* Dataset: https://www.kaggle.com/datasets/camnugent/sandp500?resource=download