Using the ARIMA Model to forecast future prices of tech stocks
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# Predicting Future Prices

**Ivan Hung**

**Abstract**

Write the abstract and mention that the code can be found on **GitHub**. **Disclaimer:** This paper is for informational purposes only and does not indicate any investment advice. Any financial decisions based on the findings presented are made at the reader's own risk. This paper was designed to test the author's ability on using the ARIMA framework.

**Keywords:** ARIMA, Time-Series Forecasting, Technology Stocks

## 1 Stock Selection and Justification

Write the intro here lol

## 2 Data Collection Method & Preliminaries

In this section, we will outline the methodology used to forecast asset prices, beginning with statistical tests and progressing to obtaining their predictions.

### 2.1 The ARIMA Model

$$\Delta P_t = c + \phi_1 \Delta P_{t-1} + \theta_1 \epsilon_{t-1} + \epsilon_t \tag{1}$$

This is the most basic form of the ARIMA model that we will be using. Equation (1) will have varying number of lags/differences, depending on what we identify to be the optimal lag value for each respective asset we analyse [i.e. A generalised ARIMA will have lags (p,d,q)]. A generalised form of the model can be found below, in Equation (2).

After differencing d times:

$$P_t = c + \sum_{i=1}^{p} \phi_i P_{t-i} + \sum_{j=1}^{q} \theta_j \epsilon_j + \epsilon_t \tag{2}$$

# 3 ARIMA Model Training

blah blah blah

# 4 Auto ARIMA

Define Auto ARIMA here

## 4.1 Why should we consider an Auto ARIMA model?

blah blah blah here

# 5 Forecasting and Evaluation

blah blah blah

# 6 Conclusion and Considerable Improvements

blah blah blah