



# Forecasting Future Returns: An Analysis of Stock Price Prediction Models

# Introduction

This presentation will analyze stock price prediction models and their effectiveness in forecasting future returns. We will review the most popular models used in the industry, including the ARIMA, GARCH, and LSTM models. By the end of the presentation, you will have a better understanding of the benefits and limitations of each model.



# ARIMA Model

The ARIMA model is a time series forecasting model that uses past data to predict future values. It is based on three components: *autoregression*, *integration*, and *moving average*. This model is widely used in financial forecasting due to its simplicity and accuracy.



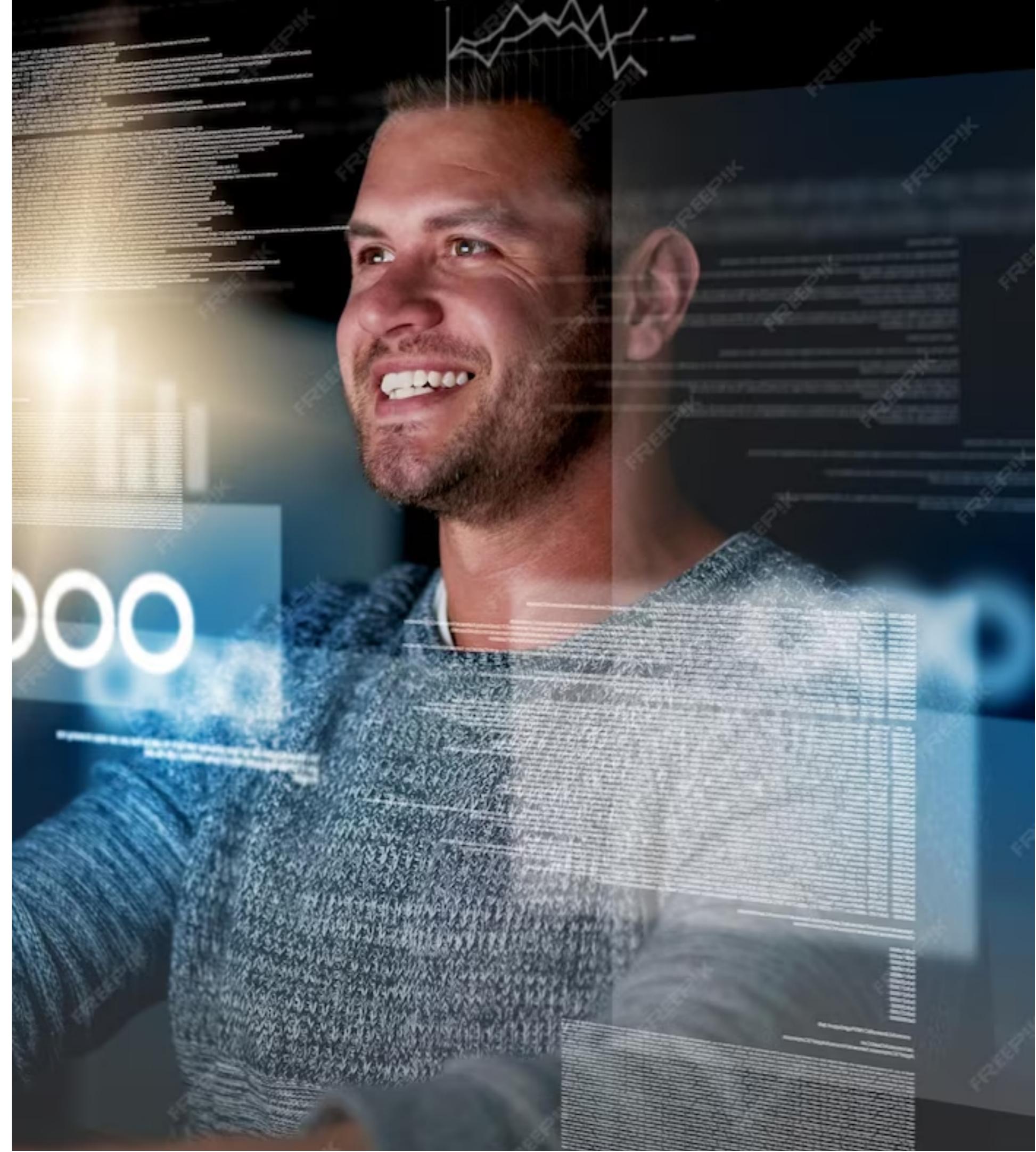


# GARCH Model

The *GARCH* model is a volatility forecasting model that takes into account the volatility clustering and persistence observed in financial time series. It is widely used in risk management and portfolio optimization.

# LSTM Model

The *LSTM* model is a deep learning model that uses neural networks to analyze sequential data. It has been applied to financial forecasting due to its ability to capture complex patterns in time series data. However, it requires large amounts of data and computational resources.





## Comparison of Models

Each model has its benefits and limitations. The *ARIMA* model is simple and accurate, but it assumes linear relationships between variables. The *GARCH* model takes into account volatility clustering, but it can be computationally expensive. The *LSTM* model can capture complex patterns, but it requires large amounts of data and computational resources.

# Conclusion

In conclusion, there is no one-size-fits-all solution for stock price prediction. Each model has its strengths and weaknesses, and the choice of model depends on the specific problem and data available. It is important to carefully evaluate the performance of each model and choose the one that best fits the problem at hand.

# Thanks!

Do you have any questions? [addyouremail@freepik.com](mailto:addyouremail@freepik.com)  
+91 620 421 838  
[yourcompany.com](http://yourcompany.com)

