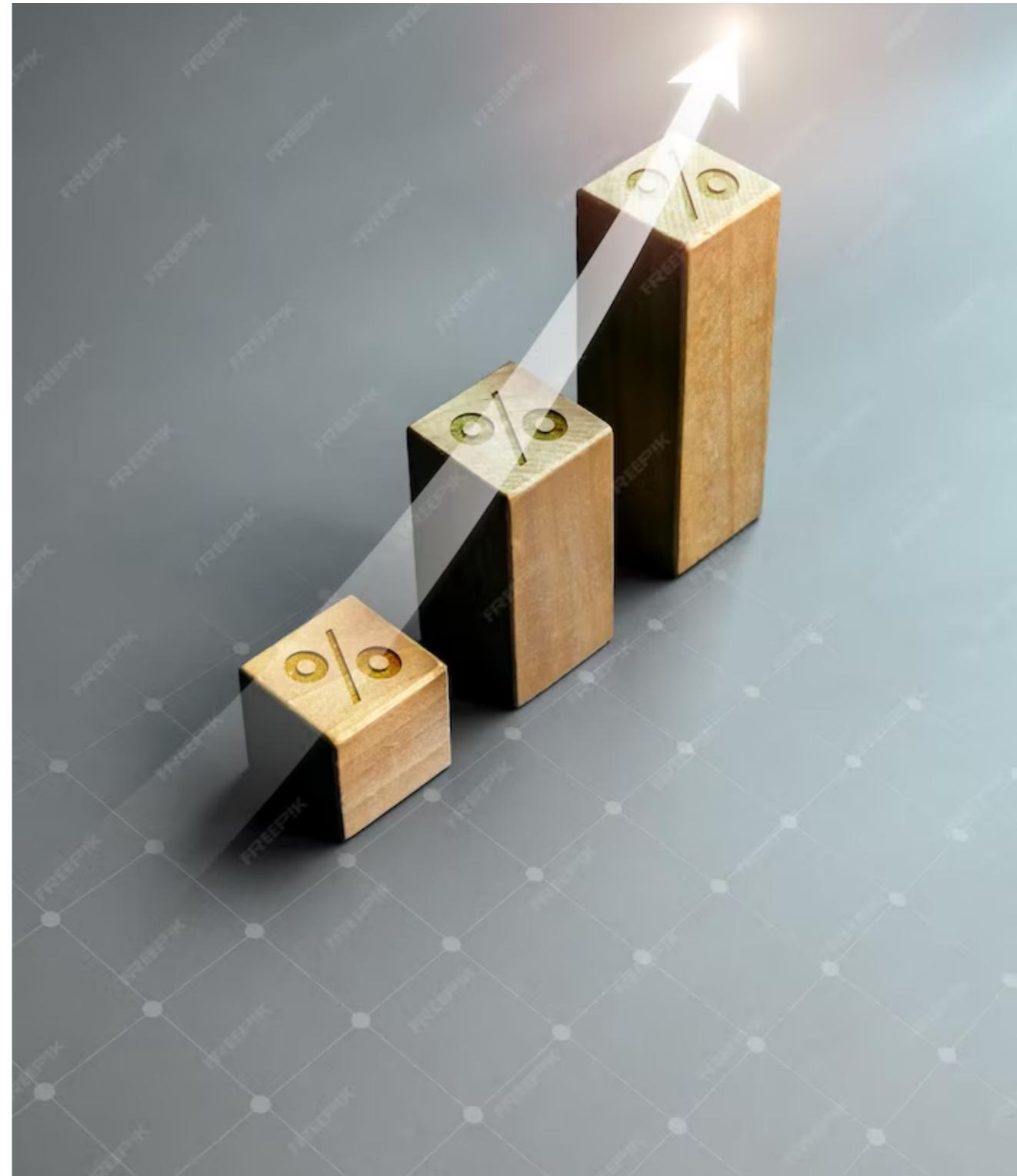


PRODUCT DEMAND PREDICTING WITH MACHINE LEARNING

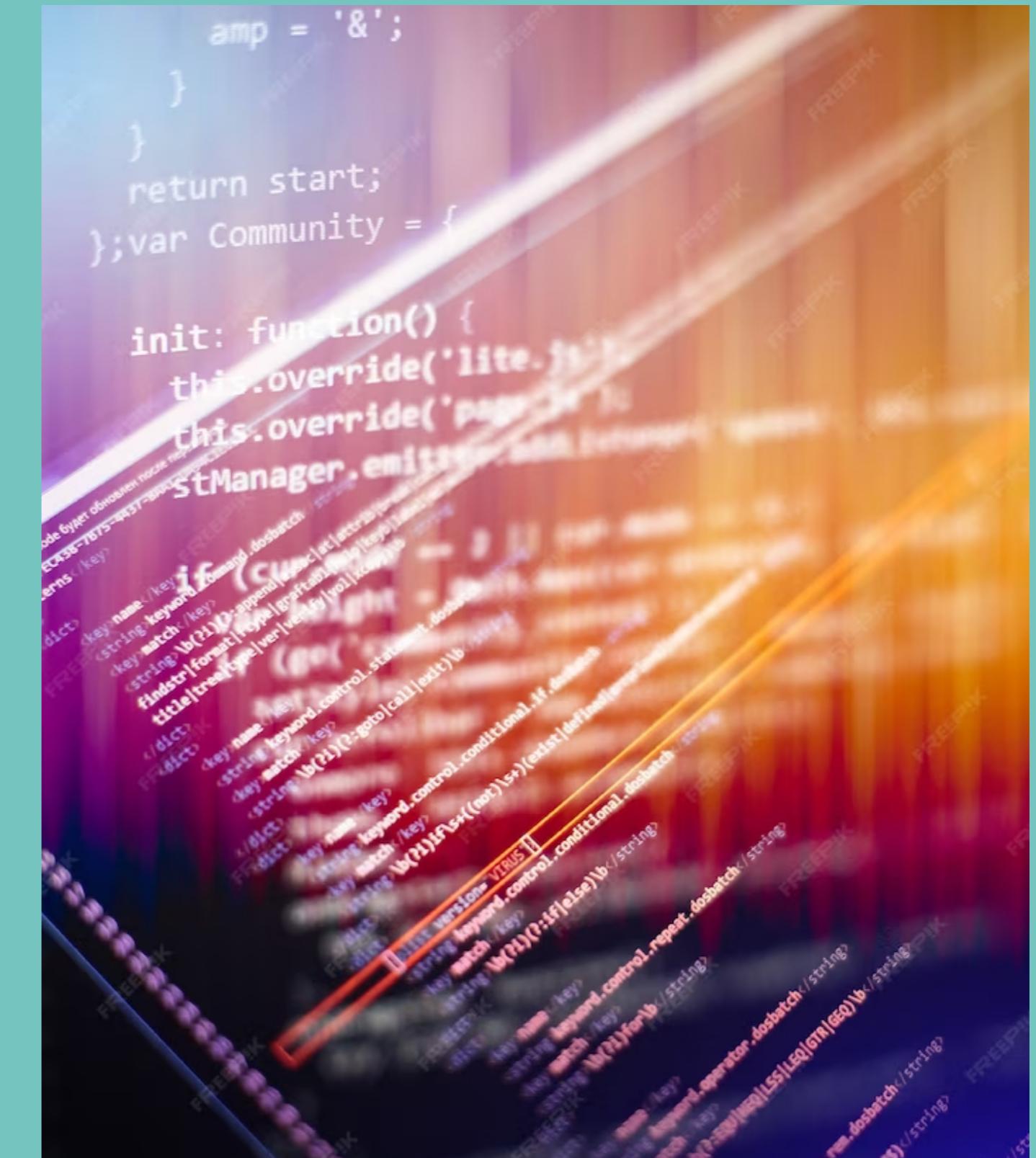
INTRODUCTION

In this presentation, we will discuss how to forecast product demand using machine learning. Accurate demand forecasting is crucial to optimize supply chain and inventory management. We will cover the benefits of machine learning, the process of building a demand forecasting model, and real-world examples of successful implementations.



WHY MACHINE LEARNING?

Machine learning enables businesses to analyze large amounts of data and identify patterns that would be impossible for humans to detect. By leveraging machine learning algorithms, we can accurately forecast product demand, reduce inventory costs, and increase customer satisfaction.

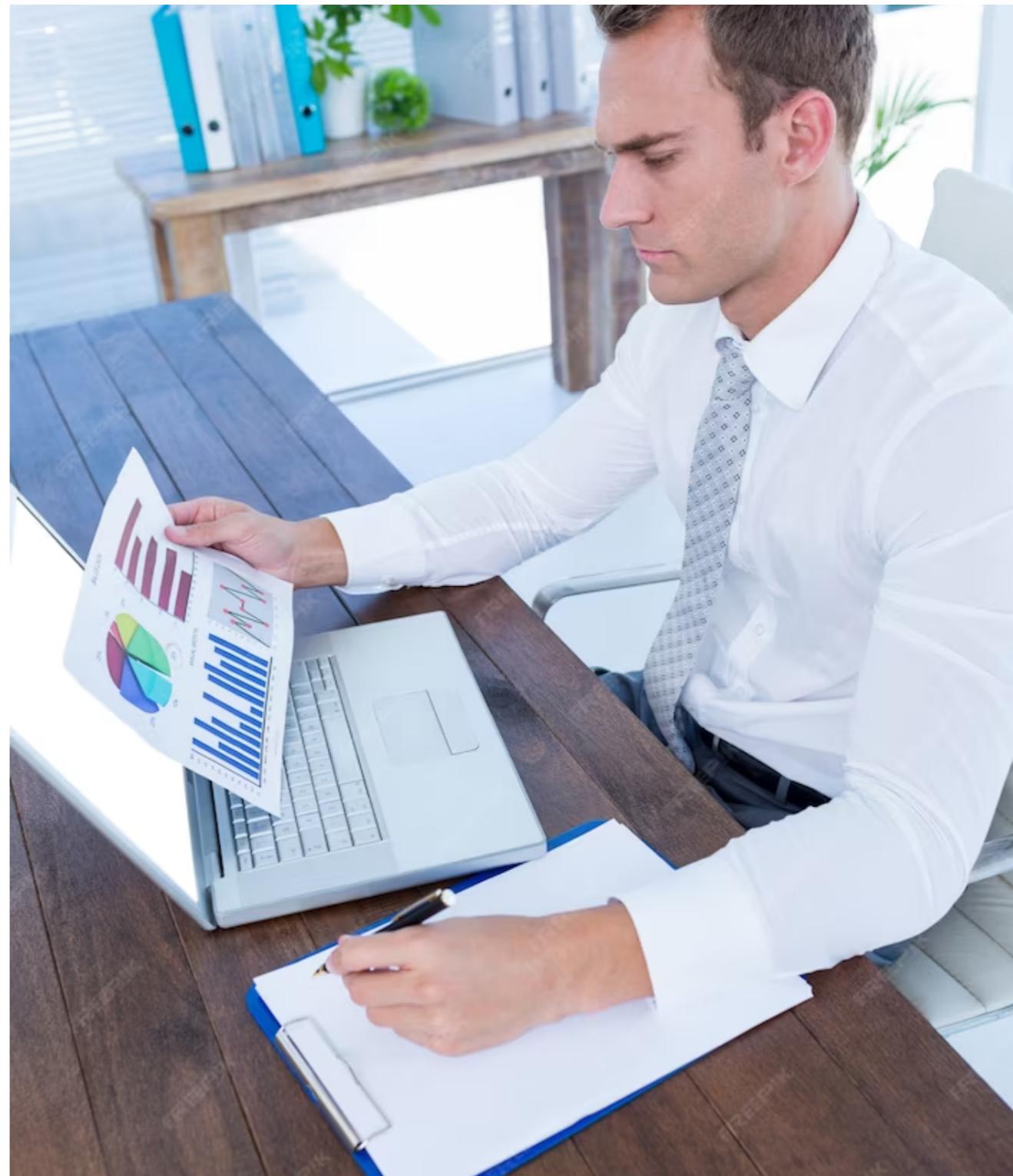


Data Collection

The first step in building a demand forecasting model is to collect historical data on product demand. This includes sales data, customer behavior data, and external factors such as weather and economic trends. The more data we have, the more accurate our predictions will be.

DATA PREPROCESSING

Before we can use the data to train our machine learning model, we need to preprocess it. This involves cleaning the data, handling missing values, and transforming the data into a format that can be used by the machine learning algorithms.



MODEL SELECTION

There are many machine learning algorithms that can be used for demand forecasting, including linear regression, time series analysis, and neural networks. The choice of algorithm depends on the specific problem and the type of data we have.



Model Training

Once we have selected the machine learning algorithm, we need to train it on the historical data. This involves splitting the data into training and testing sets, and using the training set to optimize the model parameters.





MODEL EVALUATION

After training the model, we need to evaluate its performance on the testing set. This involves calculating metrics such as mean absolute error, root mean squared error, and R-squared. We can use these metrics to compare different models and choose the best one.

REAL-WORLD EXAMPLES

There are many companies that have successfully implemented machine learning for demand forecasting, including Amazon, Walmart, and Coca-Cola. By accurately predicting product demand, these companies have been able to optimize their supply chain and inventory management, and increase their revenue.



CONCLUSION

Demand forecasting is a critical aspect of supply chain and inventory management. By leveraging machine learning, we can accurately predict product demand and optimize our operations. With the right data, algorithms, and evaluation metrics, we can build models that provide accurate predictions and drive business success.