

STA 3180 Statistical Modelling: Forecasting

Forecasting - STA 3180 Statistical Modelling

Forecasting is the process of predicting future events based on past data. It is a key component of statistical modelling and is used in many areas, such as economics, finance, and marketing. Forecasting can be done using various methods, such as time series analysis, regression analysis, and machine learning. In this lecture, we will discuss the basics of forecasting and how to use it in statistical modelling.

Key Concepts

- **Time Series Analysis**: Time series analysis is a method of forecasting that uses past data to make predictions about future events. It is based on the assumption that past patterns will continue into the future.
- **Regression Analysis**: Regression analysis is a method of forecasting that uses a linear model to predict future values. It is based on the assumption that there is a linear relationship between the independent and dependent variables.
- **Machine Learning**: Machine learning is a method of forecasting that uses algorithms to learn from data and make predictions. It is based on the assumption that the data contains patterns that can be used to make predictions.

Definitions

- **Forecasting**: Forecasting is the process of predicting future events based on past data.
- **Time Series**: A time series is a sequence of data points collected over a period of time.
- **Regression Analysis**: Regression analysis is a method of forecasting that uses a linear model to predict future values.
- **Machine Learning**: Machine learning is a method of forecasting that uses algorithms to learn from data and make predictions.

Practice Multiple Choice Questions

1. Which of the following is NOT a method of forecasting?
 - A) Time series analysis
 - B) Regression analysis
 - C) Machine learning
 - D) Decision trees

Answer: D) Decision trees