

Financial Data Science

Wall Street Club

Revising the
different models
we have studied

These models are:

- Simple Technical Analysis and Algo Trading
 - Modelling using financial mathematics - mainly derivatives
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What this phase will
cover

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Methods popular in data science

1. Time Series Analysis
2. Machine Learning and Deep Learning

What is time series analysis?

Classical time series forecasting methods may be focused on linear relationships, nevertheless, they are sophisticated and perform well on a wide range of problems, assuming that your data is suitably prepared and the method is well configured.

What are the problems we face while modelling time series problems?

- Which features to choose?
- Which modelling technique to choose?

The Autoregressive Model (AR Model)

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The notation $AR(p)$ indicates an autoregressive model of order p . The $AR(p)$ model is defined as

$$X_t = c + \sum_{i=1}^p \varphi_i X_{t-i} + \varepsilon_t$$

AR(1) process

Example: An AR(1) process

An AR(1) process is given by:

$$X_t = c + \varphi X_{t-1} + \varepsilon_t$$

Read more:

<https://machinelearningmastery.com/time-series-forecasting-methods-in-python-cheat-sheet/>