An introduction to data science for finance

Course overview

This one-day, hands-on course provides a structured teaching environment where finance professionals can learn classic data science methods, which are used as the bases for many financial technologies. At the end of the workshop, course participants will have applied the Python programming language and essential data science techniques to solve complex finance problems.

Key learning outcomes

- An overview of data science methods relevant to finance and fintech
- Hands-on Python programming experience
- Understanding of effective data visualisation techniques using Python

What this course offers?

- Course notes, certificate of completion and post-course email support for 3 months
- An engaging and practical training approach with a qualified instructor with relevant technical, business and educational experience

Who is this course for?

This course is designed for professionals who want to gain a hands-on introduction to essential data science methods that are used in finance and fintech.

Pre-requisites

As a pre-requisite for this course, participants are required to be confident with the basic aspects of the Python programming language including: syntax, variables, functions, if statements, loops, and data structures such as lists and dictionaries. If you are not confident with Python you must complete this free online course before the start of the data science workshop.

CPD

This course is eligible for **6** CPD hours.

Programme

Introduction to data science for finance and fintech
- What is data science, why is it relevant to finance and fintech

The data science process
- Overview of CRISP-DM, what does each stage of the CRISP-DM process accomplish, presentation of common challenges, what should fintech professionals know about this process

Applications of data science to finance and fintech industries

Classification in Python for finance and fintech
- When to use classification tasks
- Overview and implementation of Naïve Bayes classification in Python
- Evaluation of classification tasks using accuracy, confusion matrices, expected value, etc.
- Visualization classification tasks using profit curves, ROC curves, AUC, etc.
- Selecting informative attributes via information gain and entropy analyses

Overview of other common data science methods
- Supervised vs. unsupervised learning

Clustering in Python for finance and fintech
- Unsupervised modelling strategy
- When to use clustering tasks
- Measuring similarity
- Overview and implementation of k-means in Python
- Improving k-means and using similarity for predictive modelling

Big data for finance
- What is big data and why is big data relevant to finance and fintech
- How does big data relate to the concepts taught in this course
- Overview of most common big data technologies