Solvay Brussels School
Economics & Management

Basics of Python

9-hour training

Charles Hoffreumon

Charles Hoffreumon is a researcher at the International Center for Innovation, Technology and Education studies (iCite) and a doctoral candidate at the European Center for Advanced Research on Economics and Statistics (ECARES), both at the Université Libre de Bruxelles, where he does research on the economics of blockchain systems and on digitization. He is also teaching assistant in the fields of computer science and data analytics for economists and business engineers.

He holds Master degrees in Business Engineering and Research in Economics.

Course Outline

This course is geared towards students in financial and management disciplines with little or no experience in Python or programming languages. It is designed to teach the basics of programming needed to perform advanced data analysis and simulations. The emphasis will be put on the aspects relevant to financial analysis and to showcase example of what is possible to do with modern programming languages.

Participants completing this course should be able to:

- Understand the basic components of scripts and programs (variables, loops, data structures,…)
- Plan and execute simple exploratory data analysis
- Plan and execute simple simulations on real financial datasets
- Find relevant information to write the code needed to perform further analysis and to improve their programming skills

Course Structure

I. Day 1: Getting Started with Python

a) When to use Python: identifying the right tool for the right job
b) Variables and data structures
c) Loops
d) Useful libraries for data analysis (description)
e) Where to look for help

II. Day 2: Simulations

a) Using numpy and scipy to generate data
b) Monte-Carlo simulations
c) Mini-case: testing simple investment strategies (on real and simulated data)

III. Day 3: Data Analysis

a) Producing graphics (overview)
b) Decision tree and the basics of data science
c) Mini-case: classifying using decision trees

IV. Day 4: Cases feedbacks