

Data visualization with Python

Lecturer: **Andrea Giussani**

Language

English

Course description and objectives

Visualization of analytical results is probably one of the most important aspects that people want to highlight, either in a presentation or in a report. It is the result of complex data pipelines, which might require merging, transforming and wrestling data. The course covers the most famous libraries for data visualization in Python. We will cover the basics using matplotlib, and then move to more advanced libraries to create more sophisticated plots.

Upon successful completion of this course, students should be able to:

- Perform basic data transformations suitable for data visualization.
- Translate analytical results into charts and plots.
- Be familiar with matplotlib and related python libraries.

Audience

The course is targeted at:

- students who aim at improving their skills on data visualization using Python
- those who are curious on Data Visualization

However, note that the course is open to a restricted audience of Bocconi students.

More specifically, only students enrolled in:

- their third year bachelor programs, or
- any of the Bocconi Master programs, or
- any PhD or SDA programs

Prerequisites

Having passed the curricular exam in Computer Science or having a significant strong exposure to coding (especially with Python) is really recommended.

Duration

10 hours

Teaching mode

It will be possible to join the course in presence and/or in distance, by connecting remotely and following the streaming of the lesson held in the classroom.

Calendar

Lecture	Date	Time	Room	Lesson in person with groups by student ID number
1	Thu 16/09/2021	18.40 - 20.10	Info AS04	Odd
2	Tue 21/09/2021	18.40 - 20.10	Info AS04	Even
3	Thu 23/09/2021	18.40 - 20.10	Info AS04	Even
4	Tue 28/09/2021	18.40 - 20.10	Info AS04	Odd
5	Thu 30/09/2021	18.40 - 20.10	Info AS04	Odd

Syllabus of the course

Lecture	Topics
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1	Getting Data in Python
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- What is a DataFrame?
- Merging Operations with Pandas
- Introduction to Matplotlib

Exercise

2	Plotting with Matplotlib
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- Axes and Subplots
- Customization of a Plot
- Main Type of Charts

Exercise

3	Advanced Plotting with Matplotlib
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- Annotations
- Visualization of Categorical variables

Exercise

4	Advanced Visualization Tools (2)
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- Statistical Analysis
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- Visualization of multivariate Distributions

Exercise

5 Advanced Visualization Tools (2)

- Dynamic Plotting
- Gestures and Inspectors

Exercise

Software used

Python 3.7 (or greater)

Suggested bibliography

Lecture notes provided by the Instructor.

Available seats

This activity is limited to **96** participants. Registrations cannot be carried out once this number has been reached or after closing of the registration period.