

STRATEGOS *Technical Workshop*

Advanced Python Programming for Data Science

When: Time: 15.30-18.30, 1st Part: Nov 12, 2021; 2nd Part: Nov 19, 2021; 3rd Part: Dec 3, 2021; 4th Part: Dec 10, 2021.

Where: DIBRIS Via Dodecaneso 35 – Conference Room - Floor 3rd

& Webinars on Microsoft Teams: 2021/22 Computational Intelligence – code ge2yho3

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Workshop Description:

Aims

This workshop provides an introduction to the breadth of data science methods that are central to data-intensive science, research, and discovery. Students with a programming background who want to use Python effectively for data science tasks will learn how to face a variety of problems: e.g., how can I read this data format into my script? How can I manipulate, transform, and clean this data? How can I visualize this type of data? The discussion is augmented with frequent example applications, showing how the wide breadth of open source Python tools can be used together to analyze, manipulate, and visualize data.



Syllabus

Python and Object Oriented programming overview - Python programming SDK: Jupyter Notebook and Google Colab - Basic image manipulation; mathematical and graphic libraries Numpy, Pandas, Matplotlib and Seaborn: installation, references to the documentation, practical examples - Homeworks.

Materials:

- Textbook: “Python Data Science Handbook” by Jake VanderPlas online at: <https://github.com/jakevdp/PythonDataScienceHandbook> with together related software
- Additional materials on UNIGE Aulaweb <https://2021.aulaweb.unige.it/course/view.php?id=4900>

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