

Introduction to Statistical Data Analysis and Visualization with Python

Content

Python is a modern programming language which is also much used for Statistical Data Analysis and Machine Learning. It has become a core tool of choice for a wide range of researchers spanning over multiple disciplines. The aim of the present workshop is to give the participants a first step hands-on practical session on Python and Jupyter Notebooks. Introduction to basic Python and its tools for working with data, doing descriptive statistics, visualization and hypothesis testing are practiced. The use of own datasets is encouraged.

Learning outcomes

At the end of the course, participants can with Python:

- import and summarize data
- manipulate data frames
- explore data with descriptive statistics and graphics
- produce high quality publication level graphics
- perform basic regression and statistical hypothesis testing

Individual Feedback

Optional: You may choose to work on a project in which you analyze and visualize a different set of data than used during the workshop (either your own data or other) and present this during a 10' talk on day 4. Lecturers will provide feedback and help. Expected workload of 30 hrs.

Trainer:	<u>ScITS Team</u> (PD Dr. S. Haug, Dr. K. Sipos, Dr. Guillaume Witz et al.)
Target Group:	(Post)Docs planning to work with Python to analyse and visualise data.
Language:	English
Nr of Participants	17

Requirements	No prior knowledge in Python is assumed, however, basic statistical school knowledge is required for simple statistic metric. Intermediate models will be introduced during the workshop.
Dates	2021-02-22, 2021-03-01, 2021-03-08 and 2021-03-15 from 09:00 to 17:00. The last day is dedicated to project presentations.
Location	University of Bern / Main Building, Hochschulstr. 4, room 104
ECTS	1 for attending the workshop (day 1-3), 2 with project presentation (day 1-4)
Further Information	Participants must bring a Wi-Fi enabled laptop.