

Artificial Intelligence, Deep Learning & Healthcare

Facilitators	<ul style="list-style-type: none">• Dr. Francesca Faraci, PhD (SUPSI/MeDiTech)• Luigi Fiorillo, MSc (SUPSI/MeDiTech)• Angelo Consoli, MSc (SUPSI/ISIN) <p>Other research assistants will support during the practical exercises.</p>
Description	<p>This course will give a broad overview of potentials and limitations of deep learning application in healthcare. After giving an overview of the deep learning pros and cons, and a list of examples of its application (both in the image and biosignals domain), the student will learn the basics of using Python for data analysis and deep learning. Data security and ethical issues will shortly be presented from different perspectives.</p> <p>The course is meant for a generic audience that includes both data scientists, biomedical engineers and clinicians, physicians that are interested in expanding their knowledge.</p>
Objectives	<p>By the end of the course, students will be able to run a typical Python project: import data from text or Excel files, perform data manipulation (including use of labels), save manipulated data, perform statistical analysis, graphical representation of the data. Students will also be able to execute a script with basic examples of type of data classification.</p>
Dates	29 August - 02 September 2022
Eligibility	SSPH+ IGC students, external PhD students and other participants are welcome for limited places.
Course Structure	Lectures, case study analysis and practical exercises. Students will be divided in small groups during practical exercises, also considering their programming experience levels.

Students will receive predefined scripts and data to practice with, and are encouraged to develop their final assignment with their own data. The theoretical part in the morning sessions will be supported by pre-recorded videos and SoA publications analysis, whilst for the afternoon laboratories activities with small groups (5-6 persons) are foreseen.

Assessment

A small project will have to be completed and presented. The scope and difficulty of the exam will be similar to the practical exercises of the course.

Credits

2 ECTS

Preliminary Work: 2-4 h; Contact time: 38 h; In-course work: 20 h; Wrap-Up Work: 7 h

(1 ECTS corresponds to appr. 25-30 hours workload)

Location

Online

Course Fees

SSPH+ PhD Students	30.- CHF (processing fee)
External MD/PhD Students	600.- CHF
External Academics	1700.- CHF
Other Participants	2500.- CHF

Registration

<https://www.conftool.com/ssph-phd-courses2022>

Deadline for registration

29 July 2022