UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Big data for Healthcare: an introduction

2526-122R-07

Aims

The goal of the course is to provide students with appropriate knowledge of the potential of big data in the field of neuroscience in order to deal with novel research questions.
The expected outcomes include an improvement in the knowledge and understanding of concepts related to big data, artificial intelligence, and related topics within the field of neuroscience (knowledge and understanding; applying knowledge and understanding). Furthermore, the course aims to foster the development of soft skills in PhD students, promoting a conscious and critical use of digital technologies in neuroscience domains, through the evaluation of data types and research questions aligned with the principles of precision and personalized medicine (making judgements). Similarly, another key objective is to promote effective communication within the relevant scientific community, particularly in relation to the students' own research interests (communication skills). Consistently, the course seeks to equip students with the necessary tools to stay autonomously and continuously updated on topics related to big data and digital innovation (learning skills).

Contents

The course provides PhD students with an introduction to the fundamentals of big data sources that drive digital health innovations in Neurosciences to tackle real-world challenges, promoting students' skills in observation, analysis, and interpretation of relevant scenarios.

Detailed program

In order to understand the terminology, techniques, and technology driving transformation in neuroscience, students will be provided with an in-depth overview of the commonly used definitions and methods in the biomedical field. Trends, technological developments, and opportunities for translating these into new applications

in the field of neuroscience will be addressed. This is also reflected in the use of big data in relation to artificial intelligence approaches and their components.

Prerequisites

None

Teaching form

in-person and interactive (collaborative learning; Wooclap, Mentimeter)

Textbook and teaching resource

Provided material

Semester

2nd semester, April-September

Assessment method

Collaborative learning based also on evidence from the scientific literature

Office hours

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Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION | INDUSTRY, INNOVATION AND INFRASTRUCTURE | PARTNERSHIPS FOR THE GOALS