



Teach Mob – Visiting Professors Academic year 2017/2018

2nd Term

COURSE TITLE: Introduction to data analysis for natural and social sciences

Scientific area: Physical area

Department of Physics (with Scuola di Studi Superiori – SSTS)

Language used to teach: English

Teaching Commitment: 24 hours

Course summary

Data analysis and inference is one of the most important emerging issues both in natural and in social sciences. The main goal of this course will be to summarize the most recent results in this context.

In particular the course will deal with two main advanced topics:

- first it will discuss inference theory with a particular attention to Bayesian methods and related topics.
- second it will discuss the most recent tools based on neural networks and in particular the so called “deep learning” methods .

These issue will be discussed during the course with a set of topical examples taken both from social sciences and from biological and physical sciences.

Learning objectives

Provide an overview of the most recent tools in the context of Data Analysis

- Discuss a few topical applications both in the context of Human and of Natural Sciences
- Introduce a few of the most recent computational tools for data analysis and inference

Other activities besides the course: i.e. seminars and conferences addressed to PhD students and research fellows, dissemination conferences

The teacher may conduct educational activities addressed in the form of seminars namely seminars and conferences addressed to PhD students and research fellows.

Visiting Professor Profile

We are looking for senior scientists with significant postdoctoral experience with a strong background in inference theory with a particular attention to Bayesian methods and related topics. The teacher should have thorough knowledge about the latest tools based on neural networks and in particular the so-called methods of "deep learning". The teacher must be able to contextualize this knowledge on topics drawn from the social sciences, and biological and physical sciences.

Contact person at the Department

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