


UE Introduction to Machine learning in Earth Sciences

 ECTS
3 credits

 Component
UFR PhITEM
(physique,
ingénierie, terre,
environnement,
mécanique)

 Semester
Printemps

- > **Teaching language(s):** English
- > **Open to exchange students:** Yes
- > **Code d'export Apogée:** PAX8GEAC

Presentation

Description

The objective of this course is to understand the principles and the application of machine learning methods (one of the branches of artificial intelligence) in the context of geosciences. To do so, we will introduce the concepts, the main uses in geosciences (detection/understanding of natural phenomena from satellite imagery, time series, etc.), the main problems addressed (regression, classification and unsupervised learning) as well as the main methods (random forests, PCA...). Finally, we will briefly introduce deep learning methods.

The main goal of this course is to know how to use these tools by oneself, to understand the main problems, but also to understand their limits. For this, the module is based on 12 hours of practical work in Python.

Pre-requisites:

Basic knowledge of Python programming and mathematics.

Languages: English, French



Course parts

UE Introduction to Machine learning in Earth Sciences - CM/ TD	Lectures (CM) & Teaching Unit (UE)	12h
TP	Practical work (TP)	12h

Useful info

Campus

- › Grenoble - University campus