

UE Introduction to Machine Learning and Deep Learning



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

- > Teaching language(s): English
- > Open to exchange students: Yes
- > Code d'export Apogée: PAX9GIAY

Presentation

Description

Introduction to the statistical learning theory and prediction (regression/classification)

- Review of Models/Algorithms for supervised/unsupervised learning
- Illustration de ces algorithmes sur différents jeux de données on different dataset (intelligence artificielle, Bioinformatics, vision, etc ...)

Content:

- General introduction to the statistical learning theory and prediction (regression/classification)
- Generative approaches: Gaussian discriminant analysis, naïve Bayes hypothesis
- Discriminative approaches: logistic regression
- Prototype approaches: support vector machines (SVM)
- · Unsupervised classification (kmeans and mixture model)
- Dictionnary learning / Sparse reconstruction
- Source separation

This course is given at Phelma-INP.





Course parts

UE Introduction to Machine Learning and Deep Learning -CMTD
UE Introduction to Machine Learning and Deep Learning -TP
Period : Semester 9

Bibliography

- Trevor Hastie, Robert Tibshirani et Jerome Friedman (2009), "The Elements of Statistical Learning," (2nd Edition) Springer Series in Statistics
- Christopher M. Bishop (2006), "Pattern Recognition and Machine Learning," Springer
- Richard O. Duda, Peter E. Hart et David G. Stork (2001), "Pattern classification," (2nd edition) Wiley

Useful info

Campus

> Grenoble - University campus

