

High Dimensional and Deep Learning (HDDL)



ECTS
3 crédits



Hourly volume
40h

Introducing

Statistical modelling
Machine Learning
Software for statistics (R,Python)

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

- The aggregation of learning methods via boosting algorithms
- Using deep learning methods for classification in high dimension
- Classification of signals or images
- Estimation of the prediction error
- Dimension reduction by projection onto orthonormal bases
- Anomaly detection algorithms
- Recurrent neural networks for time series forecasting

The student will be able to:

- Implement and optimize boosting algorithms on datasets
- Fit a deep neural network for signal or image classification
- Apply anomaly detection algorithms
- Use recurrent neural networks for time series forecasting
- Implement deep learning methods in high dimension on real data sets with the software R or Python's libraries.

Practical info

Location(s)

 Toulouse

Necessary prerequisites