- Faculté des sciences
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Machine learning and data mining (3IN2011)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en informatique	**Cours: 2 ph** **Exercice: 2 ph**	**Voir ci-dessous**	5

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

Période d'enseignement:

- Semestre Automne

Equipe enseignante

Prof. Jacques Savoy

Objectifs

The main objective of this course is to introduce the students to the various techniques and strategies that can be used to

- to discover pertinent relationships (or correlations) between variables
- to evaluate such relationships and machine learning approaches
- to know how to conduct a machine learning process based on available data and to interpret the results.

Practical exercises will complete the theoretical presentation.

Contenu

Introduction to machine learning and data mining concepts, problems and applications; Simple rules generation; Bayesian learning; Decision trees; Associations rules, Methodology of evaluation, Nearest neighbors (and k-NN), Clustering; Web Mining (Page Rank, HITS and spam detection).

The final mark is based on both a final written exam and the results of the practical exercises.

References

- Ian H. Witten, Eibe Frank: Data Mining: Practical Machine Learning Tools and Techniques with Java Implementations. Morgan Kaufman.
- Tom Mitchell: Machine Learning. McGraw Hill.
- Christopher M. Bishop: Pattern Recognition and Machine Learning. Springer.
- Jiawei Han, Micheline Kamber: Data Mining: Concepts and Techniques. Springer.

Forme de l'évaluation

Examination two hours

Documentation

Copies of the slides available

Pré-requis

None

Forme de l'enseignement

2 hours of lectures and 2 hours of exercises

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