

Applied inductive learning/Introduction to statistical learning - Lecture 1

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Find slides: <http://montefiore.ulg.ac.be/~lwh/AIA/>

Problems addressed

Teaching methodology, material, exams, contacts

Problems addressed in this course

*How can we design and/or make use of **algorithms** in order to extract from (possibly very large) datasets good decision strategies, predictive models, explanations and interpretations ?*

- ⇒ Batch-mode supervised learning (The main building block)
 - ⇒ Classical algorithms (Decision trees, nearest-neighbor, neural nets etc.)
 - ⇒ Theory (Sampling, likelihood, bias/variance, statistical learning theory)
 - ⇒ Advanced algorithms (Ensemble methods, kernel-based methods)
 - ⇒ Diverse learning protocols (SSL, RL, ActL, USL, on-line learning etc.)
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- NB.
- ▶ Many practical problems are concerned
 - ▶ Most are related to complex and uncertain environments
 - ▶ Scalability considerations are important

Teaching methodology, material, exams

- ▶ Lectures: every Monday PM (14h-17h)
- ▶ Personal work: readings, homeworks (with PEPITo sw), personal project
- ▶ Material: slides of lectures and selected chapters of two reference textbooks
- ▶ Evaluation: practical work (10%+30%); oral exam (60%)
(January 2009)
- ▶ Contacts persons: P. Geurts, L. Wehenkel, S. Hiard
 - ▶ P.Geurts@ulg.ac.be and L.Wehenkel@ulg.ac.be: toutes questions relatives au cours
 - ▶ hiard@montefiore.ulg.ac.be: pour l'obtention de PEPITo et de bases de données