FDA133

Introduction to Machine Learning Methods for Data Mining (CUGS)

Lectures:

20 h + Labs: 20 h.

Recommended for

All PhD students in informatics, systems and computer science. The course demands a certain mathematical and practical programming sophistication.

The course was last given:

New course.

Goals

To provide a hands-on introduction to practical machine learning tools and techniques with applications to data mining.

Organization

Lectures and labs.

Contents

The course course will consist of introductory seminars on various practical machine learning tools and techniques and their theoretical underpinnings. The course is intended to be lab intensive in the sense that each of the techniques considered will be followed by exercises and labs using appropriate software tools.

Topics include data mining and machine learning. Algorithmic techniques covered include statistical modeling, decision trees, covering algorithms, mining associatio rules, rough set based techniques. Other topics include decision rules, classification rules, instance-based learning, clustering, concept learning, and possibly Bayesian learning, PAC learnability and reinforcement learning.

Literature

The following books may be used in addition to other articles:

Witten, Ian & Frank Ebe (2000).
Data Mining, Practical Machine Learning Tools and Techniques with Java Implementations
Morgan Kaufmann Publishers
ISBN 1-55860-552-5

In addition, we may also use the following book as reference literature or as a second course book:
Mitchell, Tom (1997).
Machine Learning
WCB McGraw-Hill
ISBN 0-07-042807-7

Teachers

Marcin Szczuka, guest researcher.

Examiner
Patrick Doherty.

Schedule
Fall 2002.

Examination
Completion of a lab series (and possibily a written exam if required).

Credit
5 credits.