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DATA MINING AND MACHINE LEARNING

1. SYLLABUS INFORMATION

1.1. Course title
Data Mining and Machine Learning

1.2. University
Pázmány Péter Catholic University

1.3. Semester
1st year, 1st semester

2. COURSE DETAILS

2.1. Course nature
Compulsory

2.2. ECTS Credit allotment
5

2.3. Faculty data
Dr. Lukács Gergely István

3. COMPETENCES AND LEARNING OUTCOMES

3.1. Course objectives
Knowledge: data mining and machine learning algorithms, their application, evaluation and related concept

Skills: using different data mining tools, analyzing datasets, describing patterns discovered in datasets (models), predicting values, evaluating the performance of models

3.2. Course contents
- Input and output of data mining process
- Task types (e.g., clustering, classification, numeric prediction, association rule mining).
- Evaluation
- Selected algorithms
- Preprocessing and postprocessing
- Ensemble learning methods

3.3. Course bibliography
Ian Witten and Eibe Frank, Data Mining, Practical Machine Learning Tools and Techniques, 3rd ed., 2011, Morgan Kaufmann Publishers

Lecture slides on the homepage

4. EVALUATION PROCEDURES AND WEIGHT OF COMPONENTS IN THE FINAL GRADE

Midterm test: During regular class time, s. timetable on Wiki page. Replacement test at the end of the semester.

(Short) Tests at each practice and lab: 1 or 2 short questions, few minutes. 0/1 (0.5) points

Assignment

You must pass:
–Attendance > 80% (Lab)
–>50% of the short tests
–>50 % midterm test
>50 % assignment
to be eligible for the signature.

Final exam: written + oral:
40% is based on your performance during the semester (assignment: 20%, midterm test: 20%).
60% is based on your performance on the final exam.

Grading
>= 50% satisfactory (2)
>= 63% average (3)
>= 75% good (4)
>= 87% excellent (5)

There might be an extra opportunity for those performing very well (ca. > 85%) during the semester.