Seminar 'Advanced Topics of KMD'

every

(in German: Seminar 'Advanced Topics of KMD')

Module-ID: FIN-INF-120330

Abbreviation	Credit Points	Semester	Term	Duration	Language	Level
AdvKMD_Seminar	6	every	starting at 1.	1 Semester	english	Master

Link:	LSF
Limited accessability:	false
Responsibility:	Myra Spiliopoulou
Lecturer:	Myra Spiliopoulou
Classes:	Seminar *AdvKMD_Seminar*
Applicability in curriculum:	- M.Sc. INF: Informatik - M.Sc. INF: Schlüssel- und Methodenkompetenzen - M.Sc. INGINF: Informatik - M.Sc. INGINF: Schlüssel- und Methodenkompetenzen - M.Sc. WIF: Wirtschaftsinformatik - M.Sc. WIF: Informatik - M.Sc. WIF: Schlüssel- und Methodenkompetenzen - M.Sc. DKE: Learning Methods and Models for Data Science - M.Sc. DKE: Data Processing for Data Science - M.Sc. DKE: Applied Data Science - M.Sc. DE: Methoden der Informatik - M.Sc. VC: Computer Science

Intended learning outcomes:
When successfully completing this seminar, the students:

- know how to collect literature on a specific topic, and can judge which literature is relevant and which is not
- can compare mining methods, workflows and frameworks that address a specific scientific topic, and can rank them on given criteria
- can formulate such criteria themselves
- can critically discuss the advantages and caveats of a published mining method
- can summarize the papers they collected, their comparisons and critical discussion in an essay
- can present the papers they collected, their comparisons and critical discussion in a pre-specified amount of time and in a way understandable to both an audience that has read the papers and to an audience that has not read, and they can answer questions

Content:
CONTENT: Topics on 'Advanced Knowledge Management and Discovery' for business applications, engineering applications and applications in healthcare; all topics refer to mining algorithms for static or dynamic data **STRUCTURE:** Each student receives a topic as assignment. The assignment encompasses:

- one or more 'seed' papers in the topic's area
- a series of questions to be answered, and which concern state of the art (SOTA) methods in the topic area, challenges addressed by these methods, evaluation criteria on the performance of these methods, evaluation procedures and datasets

The student must:
1. collect additional literature from the topic area in a transparent manner
2. compare the scientific advances in the collected literature in order to answer the scientific questions
3. critically discuss and rank the methods compared in the previous step
4. present the collected literature, the comparisons and the results in class
5. write an essay on them

Workload:

- 28 hours Seminar+Consultations in class
- 124 hours self-study work on scientific papers

Pre-examination requirements:	Type of examination:	Teaching method / lecture hours per week (SWS):
	Referat	Seminar (2 SWS)

Prerequisites according to examination regulations:	Recommended prerequisites:
none	• Familiarity with advanced mining methods • Familiarity with procedures for the evaluation of models and the comparison of models • Underpinnings of scientific writing (e.g. through a bachelor seminar or a bachelor thesis)

Media:	Literature:
	The literature of the seminar covers several topics. For each topic, it consists of the papers assigned to each student and the paper that the student collects on that topic. The topics change in each semester.

Comments:
The seminar contains several topics. The mapping of the module (see field 'Verwendbarkeit') depends on the topic assigned to a specific student.

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