Machine Learning

Winter

(in German: Machine Learning)

Module-ID: FIN-INF-120517

Abbreviation	Credit Points	Semester	Term	Duration	Language	Level
ML	6	Winter	starting at 1.	1 Semester	english	Master

Link:	LSF
Limited accessability:	
Responsibility:	Andreas Nürnberger
Lecturer:	Andreas Nürnberger
Classes:	• Lecture *Machine Learning* • Exercise class *Machine Learning*
Applicability in curriculum:	- M.Sc. INF: Informatik - M.Sc. INGINF: Informatik - M.Sc. WIF: Informatik - M.Sc. DKE: Fundamentals of Data Science - M.Sc. DE: Methoden der Informatik - M.Sc. VC: Computer Science

Intended learning outcomes:
Students ...

- can create machine learning pipelines and individual algorithms
- program decision trees, multi-layer perceptrons, and KNN classifiers in Java, Python, C++
- can evaluate the predictive performance of various classifiers for practical scenarios

Content:

- Introduction to concept spaces and concept learning
- Algorithms for instance-based learning and cluster analysis
- Algorithms for generating decision trees
- Bayesian learning
- Neural networks
- Association learning
- Reinforcement learning
- Hypothesis evaluation

Workload:
56 contact hours + 124h self study

Pre-examination requirements:	Type of examination:	Teaching method / lecture hours per week (SWS):
	Written exam (also for pass/fail grade). Requirements for exam participation will be announced in the first week of the course in class and online.	• Lecture (2 SWS) • Exercise class (2 SWS)

Prerequisites according to examination regulations:	Recommended prerequisites:
keine	Algorithmen und Datenstrukturen

Media:	Literature:

Comments:
Can only be credited if the module "Grundlagen des Maschinellen Lernens" has not been credited already.

Revision #1
Created 2026-10-01 07:26:40 UTC by Fakultät für Informatik
Updated 2026-10-01 07:26:40 UTC by Fakultät für Informatik