



COURSE 3

MACHINE LEARNING

Study load: 6 credits

Total study load: 150 hours

EU-Partner(s): AP, HOWEST, UVI, NUP

TC-Partner(s): MUK, MUNI

PREREQUISITES

- Data Science

STUDY MATERIALS

- Moodle course – digital course
- Presentations
- Elaborated examples and cases
- Weblinks
- Video recordings
- Demos

TECHNICAL REQUIREMENTS / LAB EQUIPMENT

- Microsoft Office
- Spyder
- Jupyter Notebook
- Anaconda

LEARNING OUTCOMES

- Students can calculate probabilities and make predictions based on supplied data
- The student knows different criteria for technology choice
- The student uses different criteria for technology choice
- The student understands and interprets basic statistics
- The student can select, train and optimize conventional machine learning models to solve typical ML problems
- The student can build a ML pipeline starting from raw data up until an optimized ML model (no deployment included)

ACTIVITIES

- Activating lectures
- Labs

CONTENT

- The purpose of machine learning
- Overview of different machine learning techniques
- Regression
- Hyper parameter tuning
- Feature engineering
- Dealing with imbalanced data
- Model evaluation
- Classification
- Clustering
- Ensemble learning
- Dimensionality reduction
- Anomaly detection
- Introduction to neural networks

EVALUATION

First exam chance

FORM	%	REMARK
Exam	60.00	
Continuous assessment	40.00	Various interim assignments

Second exam chance (re-sit exam)

FORM	%	REMARK
Exam	100.00	