Machine Learning Laboratory

Overview

In this course, we start with rather basic established pattern recognition approaches and finally end up with state-of-the-art machine learning techniques. Methods comprise supervised as well as unsupervised approaches and range from kernel density estimation and k-nearest neighbor classification to transformer, diffusion and CLIP. Based on the flipped classroom principle, the theoretical knowledge is acquired independently in advance to the course units. During the seminar the technical matters are repeated and internalized within hands-on sessions.

Python is used as programming language in combination with image processing and machine learning libraries. A crucial prerequisite is the capability of programming as well as the motivation to get used to Python. The language of instruction is English.

The laboratory consists of nine units + repetition session. The attendance is mandatory in all the nine sessions, if one is missed then the repetition session can be used.

At the beginning of each unit, there will be a short test to ensure that you are prepared. If you studied the preparation material, you will be able to answer all questions.

Corresponding documents are provided via Moodle. You do not need to prepare code. All programming will be done during the session.

In case of question or in case that required material is missing, please consult us via email:

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