

Complementary module of the School of Engineering (EVA)

Title: Machine Intelligence Lab

Abbreviation: EVA_MILab

Credits	3 ECTS
Provider	CAI
Proof of performance	Successful completion of MOOC Successful participation in Hackathon with final presentation
Beginning	First week of fall semester, by arrangement
Abstract (max. 300 characters)	You complete a public MOOC in the area of machine intelligence, guided by your ZHAW lecturers. After successful completion, you put your acquired skills to the test in a one-week hackathon. This way you gain broad application know-how in a specialized area of machine learning.
Didactic approach and style	Part 1: You successfully complete a public MOOC in the area of machine intelligence of ca. 12 weeks duration, including solving all lab assignments needed to pass. You will be mentored in ca. bi-weekly colloquia by your ZHAW lecturers. The first part is finished with the (free-of-charge) certification of successful graduation from the MOOC provider. Part 2: You undertake (single or in a small group) a one week hackathon: You will be given a machine intelligence project by your lecturers (problem description, data) at the morning of the first hackathon day. On the evening of the final day, you give a presentation on your proof of concept implementation with an outlook for future work.
Language	English
Content and educational objectives	You gain skills in a selected machine learning area besides what is covered in central modules: <ul style="list-style-type: none"> You gain theoretical understanding of the methods and test it practical programming exercises You are able to apply your skills properly and targeted in machine intelligence projects Thus, you are able to assess and demonstrate the feasibility of project ideas
Admission requirements	Undergraduate level skills in programming, linear algebra, probability theory, descriptive statistics
Literature	As common machine learning and deep learning is well covered in the MSE curriculum at the moment, we will likely look into some specialized topics such as reinforcement learning (e.g.

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	https://github.com/yandexdataschool/Practical_RL/tree/master , http://rail.eecs.berkeley.edu/deeprlcourse/
Special regulations	You are admitted to part 2 if and only if you have solved successfully all labs/programming exercises for part 1 of the course (as documented by your earned certificate). You pass this module if your final presentation of the hackathon demonstrates reasonable application of the taught skills from part 1.
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