

LV 185.A83 Machine Learning for Health Informatics (Class of 2020)

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Study Code: 066 936 Master program Medical Informatics

<https://tiss.tuwien.ac.at/curriculum/public/curriculum.xhtml?dswid=9468&dsrid=253&key=56089&semester=NEXT>

Semester hours: 2.0 h; ECTS-Credits: 3.0; Type: VU Lecture and Exercises with Python

ECTS-Breakdown (sum=75 h, corresponds with 3 ECTS, where 1 ECTS = 25 h workload):

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|---|------------|-------------|
| Presence during lecture | 8 * 3 h | 24 h |
| Preparation before and after lecture | 8 * 1 h | 08 h |
| Preparation of assignments and presentation | 28 h + 2 h | 30 h |
| Written exam including preparation | 1 h + 12 h | 13 h |
| TOTAL students' workload | | 75 h |

Class URL: <https://human-centered.ai/machine-learning-for-health-informatics-class-2020>

Class Schedule for 2020 (subject to change: please check class URL for any changes):

| <i>Nr</i> | <i>Week</i> | <i>Topic</i> |
|--|-------------|---|
| 01 | 12 | Introduction and overview: From health informatics to ethical responsible medical AI |
| 02 | 13 | Data for machine learning, Probabilistic information and entropy: On data quality, data integration, data augmentation, information theory |
| 03 | 14 | Tutorial T01 and Python assignment A01 (Data augmentation) Tutor: Marcus BLOICE |
| Happy Easter | | |
| 04 | 17 | Probabilistic graphical models: From knowledge representation to graph model learning |
| 05 | 18 | Tutorial T02 and Python assignment A02 (Probabilistic programming) Tutor: Florian ENDEL |
| 06 | 19 | Selected methods of explainable AI: LIME, BETA, LRP, Deep Taylor Decomposition, PDA, TCAV etc. |
| 07 | 20 | Tutorial T03 and Python assignment A03 (LRP) Tutor: Anna SARANTI |
| Finalization of assignments and exam preparation | | |
| 08 | 24 | Course finalization and grading (detailed information will be given in due course) |