

Courses in English Course Description

Department	04 Electrical Engineering and Information Technology
Course title	Machine Learning
Course number	EL 725
Hours per week (SWS)	4
Number of ECTS credits	5
Course objective	<p>After successfully completing the course, students will be able to name examples and tasks of machine learning and assign them to the respective subcategories. Students will know the most important methods of supervised and unsupervised learning.</p> <p>Students will be able to analyze and implement established methods for classification, regression, prediction and clustering and will be able to apply the algorithms to new problems and data.</p> <p>Students will be able to interpret deep neural network topologies and design, implement and train new models. Students will learn how to independently analyze and evaluate scientific texts and complex issues and will be able to develop their own software in the field of machine learning to solve practical problems.</p>
Prerequisites	Recommended: Courses mathematics 3 and technical computer science 3 (the course Machine Learning is for students in the 6th or 7th semester)
Recommended reading	Bishop C. M. (2006). Pattern Recognition and Machine Learning. Springer. Mitchell T. M. (1997). Machine Learning. McGraw-Hill. Murphy K. (2012). Machine Learning, A Probabilistic Perspective. MIT Press. Goodfellow I., Yoshua B., and Aaron C. (2016): Deep learning, MIT Press.
Teaching methods	Seminar-style teaching with integrated internship (3 SU + 1 internship)
Assessment methods	Written exam 90 min + voluntary exercise to improve the overall mark (max. 10% bonus)
Language of instruction	English
Name of lecturer	Prof. Dr. Clemens Hage
Email	
Link	https://hm.edu/kontakte_de/contact_detail_56197.de.html
Course content	See handbook for the bachelor program "Elektrotechnik und Informationstechnik", https://ee.hm.edu/studierende/modulhandbuecher.de.html
Remarks	