Module MA-INF 4303	**Learning from Non-Standard Data**		
Workload 180 h	**Credit points** 6 CP	**Duration** 1 semester	**Frequency** every year
Module coordinator	Prof. Dr. Stefan Wrobel		
Lecturer(s)	Prof. Dr. Stefan Wrobel, Dr. Tamas Horvath		
Classification	**Programme** M. Sc. Computer Science	**Mode** Optional	**Semester** 2. or 3.
Technical skills	Participants deepen their knowledge of learning systems with respect to one particular non-standard data type, i.e., non-tabular data, as they are becoming increasingly important in many applications. Each type of data not only requires specialized algorithms but also knowledge of the surrounding pre- and postprocessing operations which is acquired by the participants in the module. In group work, students acquire the necessary social and communication skills for effective team work and project planning, and learn how to present software projects to others.		
Soft skills	Communicative skills (oral and written presentation of solutions, discussions in teams), self-competences (ability to accept and formulate criticism, ability to analyse, creativity in the context of an "open end" task)		
Contents	The module will offered every year, concentrating on one particular non-standard data type each time, including: Text Mining, Multimedia Mining, Graph Mining. Learning from structured data, Spatial Data Mining		
Prerequisites	**Recommended:** all of the following: MA-INF 4111 – Intelligent Learning and Analysis Systems: Machine Learning MA-INF 4112 – Intelligent Learning and Analysis Systems: Data Mining and Knowledge Discovery		

Format

Teaching format	Group size	h/week	Workload[h]	CP
Lecture	60	2	30 T / 45 S	2.5
Exercises	30	2	30 T / 75 S	3.5

T = face-to-face teaching; S = independent study

Exam achievements	Written exam	(graded)
Study achievements	Successful exercise participation	(not graded)
Forms of media	lectures, exercises, software systems.	

Literature

- Gennady Andrienko, Natalia Andrienko, Exploratory Analysis of Spatial and Temporal Data, Springer, 2006
- Diane J. Cook, Lawrence B. Holder, Mining Graph Data, Wiley & Sons, 2006
- Saso Dzeroski, Nada Lavrac, Relational Data Mining, Springer, 2001
- Sholom M. Weiss, Nitin Indurkhya, Tong Zhang, Fred J. Damerau, Text Mining. Predictive Methods for Analyzing Unstructured Information, Springer, 2004