Welcome to

Knowledge Engineering

Prof. Dr. Knut Hinkelmann
Prof. Dr. Holger Wache
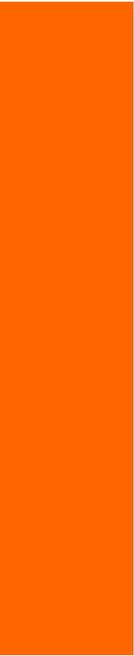
Organization

Lecturers

Prof. Dr. Knut Hinkelmann

Prof. Dr. Holger Wache

Module Objective:
Supporting Knowledge-Intensive Processes

- After completion of this module, the participants

  - will be able to assess which kind of knowledge representation and reasoning is adequate

  - are able to develop appropriate knowledge-based systems

  - can value the advantages of knowledge-based systems with respect to their costs

  - can create conceptual models of a domain

  - know approaches to turn data into knowledge that helps to make the right decisions.

Module Content

- Introduction: Knowledge in processes

- Decision Tables

- Rules
    - Textual represented rule (i.e. Horn clauses)
    - Forward and backward chaining
    - Data-driven and Goal-oriented
    - Negation-as-failure

- Fuzzy Logic

- Knowledge Graphs
    - RDFS
    - Ontology Engineering

- Graphical Models
    - Modelling and Meta-modeling
    - Ontology-based meta-modeling

- Machine Learning
    - Learning Decision Trees

Module Organization

- Lectures: presentations, discussions, exercises

- Assignments/homework
    - Readings to prepare lectures
    - Exercises during weeks

- Credits: 6 ECTS

- Assessment:
    - A project

Module Schedule

Timetable 2nd semester - A.Y. 2022/23					
Master of Science:		**LM18 - Computer Science**			
Year:	**1st**				
Course:		Knowledge Engineering and Business Intelligence - KEBI			
	Timeslots	Hours	Lecturer	Room	Online
March					
Monday 6th	2pm – 6pm	4	Prof. Wache/Hinkelmann		https://unicam.webex.com/meet/knut.hinkelmann
Tuesday 7th	9am – 1pm	4	Prof. Knut Hinkelmann		https://unicam.webex.com/meet/knut.hinkelmann
Monday 20th	2pm – 6pm	4	Prof. Holger Wache		https://unicam.webex.com/meet/holgererik.wache
Tuesday 21st	9am – 1pm	4	Prof. Holger Wache		https://unicam.webex.com/meet/holgererik.wache
Monday 27th	2pm – 6pm	4	Prof. Holger Wache		https://unicam.webex.com/meet/holgererik.wache
Tuesday 28th	9am – 1pm	4	Prof. Holger Wache		https://unicam.webex.com/meet/holgererik.wache
April					
Monday 17th	9am – 1pm	4	Prof. Holger Wache		https://unicam.webex.com/meet/holgererik.wache
Tuesday 18th	2pm – 6pm	4	Prof. Knut Hinkelmann		https://unicam.webex.com/meet/knut.hinkelmann
May					
Tuesday16th	2pm – 6pm	4	Prof. Knut Hinkelmann		https://unicam.webex.com/meet/knut.hinkelmann
Monday 22nd	9am – 1pm	4	Prof. Knut Hinkelmann		https://unicam.webex.com/meet/knut.hinkelmann
Tuesday 23rd	2pm – 6pm	4	Prof. Knut Hinkelmann		https://unicam.webex.com/meet/knut.hinkelmann

Module Information

Website

http://didattica.cs.unicam.it/doku.php?id=didattica:ay2223:ke:main

Literatur

◆ No Books

◆ Reading material will be provided for download