SYLLABUS

Applied AI, Knowledge Management and Reasoning 7.5 credits D0034E

Tillämpad AI, kunskapshantering och resonemang

Course syllabus admitted: Autumn 2023 Sp 1 - Present

DECISION DATE
2022-08-22

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LULEÅ TEKNISKA UNIVERSITET

Applied AI, Knowledge Management and Reasoning 7.5 credits D0034E

Tillämpad AI, kunskapshantering och resonemang

First cycle, D0034E

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	G U 3 4 5	Datateknik	Computer Technology

Main field of study

Computer Science and Engineering

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and courses of at least 60 credits at first cycle including the following knowledge/courses: Programming in Python (D0009E Introduction to Programming, 7.5 hp) , Object oriented programming (D0010E Object-oriented Programming and Design, 7.5 hp), Basic knowledge in mathematics (M0049M Linear Algebra and Differential Equations, 7,5 hp), Boolean algebra (M0009M Discrete Mathematics, 7.5 hp), Knowledge in English, equivalent to English 6.

Selection

The selection is based on 1-165 credits.

Course Aim

The course covers the fundamentals of models and computation methods of Artificial Intelligence.

After the course the student should be able to

- demonstrate knowledge of the disciplinary foundation and of proven experience in the design and analysis of systems built using principles of artificial intelligence
- demonstrate the understanding of methods and theories in the field of artificial intelligence
- demonstrate abilities to apply AI methods for solving practical tasks.
- demonstrate the ability to evaluate the performance of different AI models different problem setups and quality characteristics.

Contents

Topics covered include: basic methodology, paradigms for artificial intelligence, learning methods and strategies including supervised, unsuperviised, and reinforcement learning. Methods for evaluating learning outcomes. Knowledge models, reasoning models.

Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.
The education consists of lectures, laboratory work and assignments. The laboratories are presented orally and may be provided with a deadline for submission. There are no elective course elements. Unapproved students must retake the unsuccessful examination moment next time the course is given.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.
Continuous examination with two written quizzes, assignment and laboratory work that gives a number of points. The grade in the course is based on how many points you have accumulated.

Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term “unauthorized aids” refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Course offered by

Department of Computer Science, Electrical and Space Engineering

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Laboratory work	U G#	2	Mandatory	A22	
0002	Two quizzes	G U 3 4 5	3.5	Mandatory	A22	
0003	Assignment report	G U 3 4 5	2	Mandatory	A22	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Jonny Johansson, HUL SRT 2022-08-22

Syllabus established

by Jonny Johansson, HUL SRT 2022-02-11