

Organization

Introduction to AI – Part II

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Summer term 2023

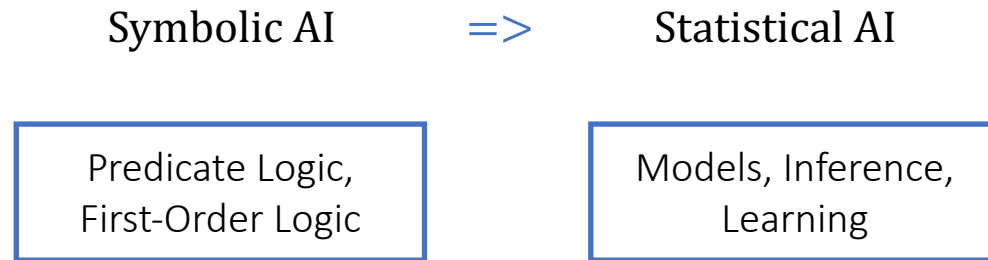
Organization

- Lecture: 2 hours per week
 - Thursdays: 8:00 – 9:30 (A3.13)
- Exercise: 2 hours per week
 - Thursdays: 9:45 – 11:15 (S1.30)
 - Thursdays: 11:45 – 13:15 (S1.30)
- Certificate of achievement
 - Written exam
 - 90 minutes
 - End of semester
 - Exam registration in OSC (registration starts on 21.04.)
 - Includes questions about „Introduction to AI – Part I“
- Communication
 - johannes.jurgovsky@th-rosenheim.de
 - Office: B1.10 (Thursdays: 13:30 – 14:30)

Week	Date	Chapter
1	16.03.2023	Orga & Introduction
2	23.03.2023	State-based Models
3	30.03.2023	Python 1: Scientific Computing
4		Easter break
5	13.04.2023	Graphical Models
6	20.04.2023	Differentiable Programming
7	27.04.2023	Out of Office
8	04.05.2023	Python 2: Text, Image, Audio
9	11.05.2023	Representation Learning
10	18.05.2023	Public Holiday (Ascension Day)
11	25.05.2023	Tools from Linear Algebra
12	01.06.2023	Recommender Systems & Association Rule Mining
13	08.06.2023	Public Holiday (Corpus Christi)
14	15.06.2023	Metaheuristics
15	22.06.2023	Localization & Mapping
16	29.06.2023	Network Analysis
17	06.07.2023	Review

- Question sets about lecture content
- Python programming
- Implementation of algorithms
- Tech Stack
 - Python
 - Jupyter Notebooks
- Exercises are essential
 - Implementation of algorithms fosters understanding
 - Training in Python Programming on-the-fly
 - Knowledge of common data analytics and Machine Learning libraries on-the-fly
 - `numpy`, `scipy`, `scikit-learn`, `pytorch`, `pandas`, `nltk`, `...cython ...`

Change of Perspective:



Change of Nomenclature:

- The term „Artificial Intelligence“ is vague and highly overloaded
- A term for the general public, institutions and companies to subsume the „technical magic“ behind seemingly smart applications and devices.
- No magic required. Instead:
 - Strong formalisms and algorithms. ...whose names are less known to the general public.
 - Data and efficient implementations.

Gist of this course:

- Overview of application domains of AI and adequate terminology
- Understand core concepts, models and algorithms involved in these domains