# Artificial Intelligence I

*Lab 1 - Winter Semester 2023 / 2024*
https://moodle.haw-landshut.de/course/view.php?id=10282

**1. Intelligence.**
For each of the following, give five reasons why:

(a) A dog is more intelligent than a worm.

(b) A human is more intelligent than a dog.

(c) An organization is more intelligent than an individual human.

Based on these, give a definition of what "more intelligent"may mean.

**2. Chatbots.**
Until 2020 every year the Loebner Prize was awarded to the program that comes closest to passing a version of the Turing Test. Research and report on the latest winner of the Loebner prize. What techniques did it use? How did it advance the state of the art in AI? Why is the prize reported as defunct since 2020?

Test different chatbots. Compare chatbots designed purely for entertainment, such as Mitsuku, with those used for a specific application, such as a chatbot from a parcel delivery service or an energy provider. How do all the chatbots you tested compare to ChatGPT? Briefly summarize your results.

**3. The Chinese Room Argument.**
Read about "The Chinese Room Argument" (CRA) at https://plato.stanford.edu/entries/chinese-room/. Obviously, there is no consesus as to whether the argument is a proof that limits the aspirations of artificial intelligence. Present the main points of this argument and your opinion about it in relation to Strong / Weak AI in a short essay (about 400 words).

**4. AI State-of-the-Art.**
Examine the AI literature to discover whether the following tasks can currently be solved by computers:

(a) Playing a decent game of table tennis (Ping-Pong).

(b) Driving in the center of Cairo, Egypt.

(c) Playing a decent game of bridge at a competitive level.

(d) Writing an intentionally funny story.

(e) Translating spoken English into spoken Swedish in real time.

(f) Performing a complex surgical operation.

For the currently infeasible tasks, try to find out what the difficulties are and predict when, if ever, they will be overcome.

**5. AI Competitions**
Various subfields of AI have held contests by defining a standard task and inviting researchers to do their best. Examples include the ImageNet competition for computer vision, the DARPA Grand Challenge for robotic cars, the International Planning Competition, the Robocup robotic soccer league, the TREC information retrieval event, and contests in machine translation, speech recognition, and other fields. Investigate one of these contests, and describe the progress made over the years. To what degree have the contests advanced the state of the art in AI? To what degree do they hurt the field by drawing energy away from new ideas?

**6. The Age of A.I.** (Optional)
Have you seen one or more episodes of the series "The Age of A.I.". Which application of artificial intelligence has impressed you the most? Why? You may skip the question if you have not seen the series.