Representation of Artificial Intelligence in Media

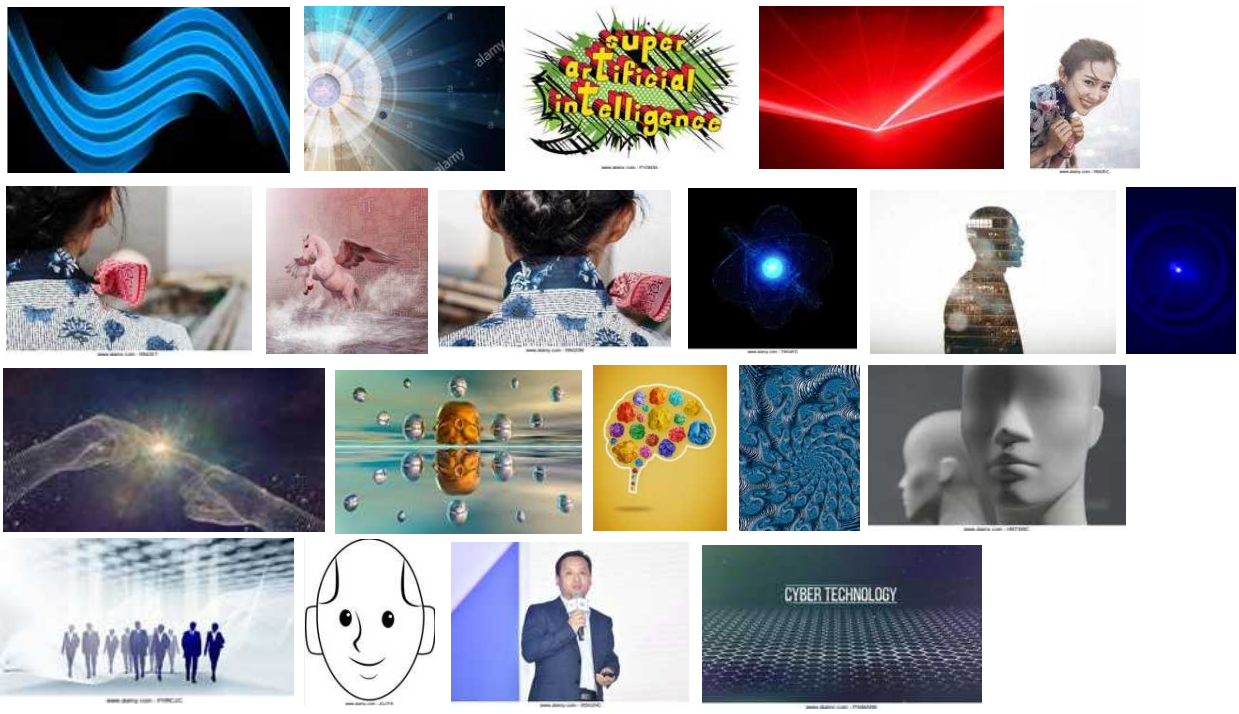
Introduction

Media articles about Artificial Intelligence (AI) make use of underlining pictures to give a first impression. What exactly are the pictures supposed to represent as AI which is a rather abstract concept with a wide range of domains? Possible visualization categories are (human-like) robots, human body parts, users, hardware, representation of the underlying software principle, text or more abstract visualizations. These were used by the JKU Robopsychology Lab in 2020/21 to evaluate realism of AI representations in media for 450 pictures by AI master students.

This thought paper examines the 20 least realistic AI images which are retrieved from https://observablehq.com/@lisacaligagan/image_viewer. It discusses the reasons for the unrealism, what exactly makes the sampled pictures inappropriate, and what the implications are for amateurs with incomplete AI knowledge.

Thoughts

First of all, the mentioned images are instroduced. They are sorted from the least to the most realistic.



The first two rows differ clearly from the others. It is noticeable that there are five images that are highly abstract by simply using colorful structures shrouded in blackness. It seems that they want to convey some emotion of enlightenment. Also very low ranked are images that don't seem to have anything in common with AI, e. g. a random female model, a Pegasus, and a human silhouette.

The third and fourth rows tend to be more accurate. Three images illustrate patterns. Since AI is an approach to find patterns in real underlying data this makes some sense. Five of these pictures give AI a human body, hands, brain, or head. Since AI includes the term "Intelligence" with the skill of learning like humans have, it seems intuitive to associate AI with human appearance. Also, the implementation of AI originates from the idea of biological brain cells [1].

Another image is a photo of a speaker. He might be famous in the field of AI science. However, for less currently informed people, this man can be perceived as an arbitrary person who talks about everything.

In general, many bluish color tones are used. Blue is linked to competence, trustworthiness, relaxation, openness, and motivation [2]. These findings fit with the observation that people don't have a clear positive or negative affection for AI in general, and might see AI as a solution tool [3].

Now that the reasons for the choice of images have been traced, the question arises why these pictures are still perceived as inappropriate by AI master students. It's quite obvious that the pictures don't represent AI itself, but try to evoke emotions or capture the reader's attention with mystery. Thus, the information content is limited. Some of the pictures are not even in the slightest associated with AI.
Only the two images showing robot-like heads might represent AI a bit more as 36.7 % of people describe AI as a robot and a majority think of robots when asked what images come to mind when they think of AI [3]. Nevertheless, these images are still inappropriate as it might lead laymen to believe that AI is all about humanoid robots. Therefore, the reality may be blurred because AI is used in a wide variety of invisible applications.

The abstract images that portray AI as a bright light, as it were the universal solution to all problems, also put AI in the wrong light. Certainly, AI can solve problems of higher complexity, but everyone should keep in mind that AI is not more than math, statistics, and computer science. Physicians also see a trend of media exaggeration about the capabilities of AI [3].

Conclusion

AI is clearly misrepresented here. This fact can lead to a biased perception of human groups against AI [3]. Therefore, careful design is appropriate.

References

[1] Donald, J. N. (2017). *Beginning Artificial Intelligence with the Raspberry Pi.* Apress. https://doi.org/10.1007/978-1-4842-2743-5

[2] Elliot, A. J., & Maier, M. A. (2014). Color psychology: Effects of perceiving color on psychological functioning in humans. *Annual Review of Psychology*, *65*(1), 95–120. https://doi.org/10.1146/annurev-psych-010213-115035

[3] Nader, K., Toprac, P., Scott, S., & Baker, S. (2022). Public understanding of artificial intelligence through entertainment media. *AI & SOCIETY*. https://doi.org/10.1007/s00146-022-01427-w