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# ARTIFICIAL INTELLIGENCE: PRECONDITIONS, BENEFITS AND RISKS

In computer science, *artificial intelligence* (AI), sometimes called machine intelligence, is intelligence demonstrated by machines, in contrast to the natural intelligence displayed by humans and animals. Computer science defines AI research as the study of "intelligent agents": any device that perceives its environment and takes actions that maximize its chance of successfully achieving its goals. More specifically, A. Kaplan and M. Haenlein define AI as “a system’s ability to correctly interpret external data, to learn from such data, and to use this learning to achieve specific goals and tasks through flexible adaptation” [1]. Colloquially, the term "*artificial intelligence*" is used to describe machines that mimic "cognitive" functions that humans associate with other human minds, such as "learning" and "problem solving".

**Preconditions**

The *prerequisites* for the creation of artificial intelligence, in my opinion, originate in the utopian intentions of mankind to introduce automation on an algorithm that frees us from the unnecessary routine and gives a complete choice to the main driving force of our lives – creation, in all spheres and directions. Nowadays, it's hard to even count the areas of artificial intelligence, not to mention the significant achievements in these areas: medicine, heavy industry, the judicial system and many others, which allow people to seek more and enable them to comprehend.

**Benefits and Risks**

*Advantages of AI:*

– a safe world where antibiotics for super-evolved bacteria can only be made by Artificial Intelligence in a timely manner because they have access to much more information and are more smarter than Humans;

– a peaceful world where AI prevents future terrorist attacks by analyzing patterns in people/groups and making mathematical deductions;

– fun world where people get to spend much more time with their family because their daily routines will be automated and even personalized because of AI;

– an optimistic world where education methods can be personalized based on the personality and learning rate of each child; this will help the children be more innovative / creative.

– a safe world where patients (of all categories) can receive the most up-to-date care;

– a rich world where AI will be used to control the economy and make it better for all nations, not just one;

– a cool world where people of all ages (not only kids) will be able to go to their destination without having to worry about their disabilities and age because of Self-Driving vehicles.

*Risks:*

The AI is programmed to do something devastating: autonomous weapons are artificial intelligence systems that are programmed to kill. In the hands of the wrong person, these weapons could easily cause mass casualties. Moreover, an AI arms race could inadvertently lead to an AI war that also results in mass casualties. To avoid being thwarted by the enemy, these weapons would be designed to be extremely difficult to simply "turn off," so humans could plausibly lose control of such a situation. This risk is one that is present even with narrow AI, but grows as levels of AI intelligence and autonomy increase.

The AI is programmed to do something beneficial, but it develops a destructive method for achieving its goal. This can happen whenever we fail to fully align the AI's goals with ours, which is strikingly difficult. If you ask an obedient intelligent car to take you to the airport as fast as possible, it might get you there chased by helicopters and covered in vomit, doing not what you wanted but literally what you asked for. If a superintelligent system is tasked with an ambitious geoengineering project, it might wreak havoc with our ecosystem as a side effect, and view human attempts to stop it as a threat to be met.

## *References:*

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## DER ZUSTAND UND DIE PERSPEKTIVEN DER ENTWICKLUNG DER INFORMATIONSTECHNOLOGIEN IN DER MEDIZIN

Heute sind Computer-Informationstechnologien nicht nur ein integraler Bestandteil des täglichen Lebens der Menschheit geworden, sondern auch in die Bereiche von Wirtschaft, Bildung und insbesondere Medizin eingedrungen. Dadurch erwirbt die Medizin völlig neue Eigenschaften. Dieser Prozess wird von erheblichen Veränderungen in der medizinischen Theorie und Praxis begleitet, die mit Anpassungen sowohl in der Vorbereitungsphase der medizinischen Fachkräfte als auch in der medizinischen Praxis verbunden sind [1]. Die Anwendung von Computertechnologien ermöglicht die Lebensqualität selbst in den entlegensten Teilen der Welt zu retten und zu verbessern.

Wenn wir über Informationstechnologien in der Medizin im Ganzen sprechen, dann ist es nichts anderes als eine Kombination von zwei führenden und wichtigen Wissenschaften für die Gesellschaft, die in der medizinischen Informatik vereinigt sind. Medizinische Informatik ist eine Reihe von wissenschaftlichen Richtungen, die sich voneinander unterscheiden, sowohl durch die Ansichten als auch durch die Methoden, die in ihnen verwendet werden, es gibt immer noch einen Streit darüber, welche Methode die beste für die Medizin ist – theoretische oder experimentelle: es ist eine gesunde Opposition der Ansichten der empirischen Forschung und der Ergebnisse der wissenschaftlichen Forschung [2].

V. V. Gribov hat drei Hauptrichtungen der Entwicklung der medizinischen Informatik genannt, nämlich: wissenschaftliche Forschung,