

FUTURE OF ARTIFICIAL INTELLIGENCE

Daria YADROVA¹, Kseniia KUGAI^{2*}

¹ Kyiv National University of Technologies and Design, Mechatronics and Computer Technologies Faculty, Computer Science and Technologies Department, BIT1-20,

² Kyiv National University of Technologies and Design, Senior Teacher of Foreign Languages Department, Kyiv, Ukraine

*Corresponding author: Kseniia Kugai, sketch_k2008@ukr.net

Abstract. *The article analyzes scientific achievements in developing and engineering robots. The influence of robots on humanity and their superiority is considered.*

Automation and computerization in modern life are extremely fast-growing areas. Nowadays, people are increasingly involving the computer in complex tasks. An artificial intelligence can help solve these tasks.

The article reveals the notion of artificial intelligence, its features. The artificial intelligence spheres of application are described.

Keywords: *consciousness, development, neuroscience, robots, technology.*

Introduction and problem statement

Nowadays, scientists are not able yet to create a robot-cleaner, which won't hit the furniture in the apartment. However, it is only the question of the nearest future when smart machines will begin to replace skilled workers. Some experts think that robots, which we have created, will gradually rise on an evolutionary scale. Now they have the intelligence of cockroaches. In the future they will have the intelligence of a mouse, a rabbit, a dog and a cat, a monkey, and finally a human. It may take many decades to overcome it, but scientists believe that someday robots will definitely surpass us in intelligence – it's only a matter of time. We are confused about how humanity will live when machines get the ability to full development and maybe even feel something.

Artificial intelligence (AI) is the scientific knowledge and technology of creating intelligent machines, programs, services, applications, etc. AI enables technology to perform functions that are considered the prerogative of a man.

The creation of artificial intelligence is designed to optimize different activities, open previously inaccessible horizons, reduce costs, create a competitive advantage and allow people to engage in creative activities, rather than routine.

An artificial intelligence specialist is the profession of the future, but it is in demand today. Specialists in artificial intelligence are engaged in:

- language, images or handwriting recognition;
- AI usage in information security;
- AI usage in computer games;
- AI usage in education and knowledge engineering;
- virtual reality development;
- artificial immune systems and other medical tasks development [1].

Methodological part

To the middle of the century, there will be a lot of robots in our world. And likely we won't even notice them because most robots don't have a person's appearance. They can be invisible or look like snakes, spiders and other insects and do unpleasant for us but important duties. These robots are called modular robots or polymorphic since they can change their form, functions and geometry depending on their duties.

“In a Southern California lab, you’ll see boxes with cubic modules, each about two inches in size; all can be connected with each other and separated, and from them it is possible to construct various animal-like creatures. Imagine a smart Lego constructor where each unit has intelligence and can be part of any configuration [2, p.3]”. This technology will help in those cases when it is necessary to go through barriers. If robot in a shape of spider had crept in sewerage and ran into a wall, firstly it would find a small hole in this wall and then it would fall to pieces. Every piece would go through the hole and then all pieces would form again beyond the wall. In such a way there are almost no obstacles for them.

We think modular robots could help to repair old infrastructure. For example, in 2007 a bridge across the river Mississippi in Minneapolis collapsed. Due to this 13 persons have died and 145 have been hurt. Most likely it happened because of the bridge being old, overloaded and had defects in construction. There are probably lots of catastrophes in our world but investigate them and repair every old bridge is expensive. Modular robots are the ones that can help in these cases – they can check bridges, highways, tunnels, pipelines, electrical stations and repair them if it is necessary.

Robots also can be used as a surgeon. The most important risk factor in surgery is human hand’s proficiency and precision. Robots-surgeons could solve these problems.

During the heart surgery a cut, which is situated in the middle of chest and is 30cm long, is made. This procedure requires a general anesthesia, increases the risk of infection, and causes pungent pain and discomfort during recovery. To leave a scar is unattractive. However, people have invented a robot “da Vinci” – it definitely could decrease all disadvantages of the above. Da Vinci robot has 4 mechanical arms: one is for video-camera manipulation and 3 others for accurate surgery. Instead of the long cut it makes just a few small in the side of body [3]. This system is already known in nearly 800 hospitals in Europe, the South America and the North America. There will be even more perfect versions of this robot in the future. Manipulating scalpels, tweezers and needles will make operations on microscopic blood vessels, nerve fibres and tissues. Actually surgeons will cut the skin only rarely – non-invasive surgery will become a norm.

Japanese have also succeeded in creating robots, which could socially interact with people. There is a robot-cooker in Nagoya and it can make a standard fast-food lunch just in a few minutes! You have only to press the suitable bottom in the menu and the robot starts cooking your order in front of your eyes. A company Aisei invented this robot-cooker. It has two big mechanical arms which are programmed to do certain sequence of movements – they grab ingredients from different bowls (meat, flour, sauces, species and so on), mix them and make salad, canape or soup [4].

Another Japanese company, Toyota, made a robot-musician that can play a violin as good as a professional. It can take the violin, nod in a tact of music and play hard melodies – the sound is amazing and realistic [5]. Despite this fact, robot can also gesticulate like a musician – it was the main intention for Toyota.

What about emotional robots? Their era could be in full swing to the middle of century. As writers-fantasts say, someday they will be cleverer than us but they couldn’t cry. Maybe it is true because scientists start to understand the nature of feeling today.

Results and discussion

Mainly a half of everything in our world is either useful or harmful and feelings help us to understand the difference. Every our feeling like hate, envy, love or fear has evolved for hundreds of years to protect us from hostile world’s dangers and to help us continue a kin. Every feeling helps us give our genes to next generation [2, p.7].

Emotional robots can be a question of life and death. The only problem is about what “consciousness” means. A lot of philosophers and mathematics have struggled on it for a long time. Consciousness is a popular term which means different things for different people. And unfortunately it doesn’t have a universal acceptable determination. Neuroscientists Antonio Damasio says that without having this possibility of conscious minds we would have no knowledge

whatsoever our humanity is; we would have no knowledge about the world. We would have no pains but also no joys; we would have no access to love or to the ability of creating something. “Out of this tight coupling between the body and the brain system you generate this mapping of the body that provides the grounding for the self and comes in the form of feelings” – Antonio explains the definition of conciseness [6].

So, there are a lot of scenes of our future. Now we are almost live in computer stimulation and it is very likely that humanity will die out before it reaches the “post-human” phase [7].

Conclusions

Nevertheless, we would dare to assume that conciseness consists of feeling and ability to recognize an environment, self-awareness and planning a future by goals. Artificial intelligence developers should try to create a robot with all these skills. The first one is hard because robots could feel the environment but they don’t realize what they feel. To achieve the self-awareness is easier. And what about planning future – robots need healthy mind. It is a compulsory precondition for the conciseness. Michio Kaiku says “The human brain cannot be mass-produced. Technology can be mass-produced and sold in tones, but the human brain cannot, which means that common sense will be the currency of the future”.

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