

ARTIFICIAL INTELLIGENCE TECHNOLOGY AND THE REALITY OF THE “AI JUDGE / ATTORNEY”: IS OUR PROFESSION DONE?

Prof. Dr. Murat Volkan Dülger*

The last point of today technology is artificial intelligence (AI). Nowadays, it is spoken in scientific circles that artificial intelligences will be able to participate in mathematical competitions, perform surgical operations, even do AI research themselves in ninety years, and that these beings will be like us a hundred years from now. Can these claims be true, and can AI really dominate the world one day? Or are these possibilities too utopian, as some people think? However, if the point reached today was mentioned years ago, wouldn't the technology we live and use right now be just as incredible? In order to answer all these questions logically, it is necessary to clarify what AI is, how it has developed, how we got to where we are today, and what might happen in the future?

In this essay, I talk about what artificial intelligence is and where it was born? I will talk about the scenarios about the future of artificial intelligence technology, especially its effects on the field of law. Of course, the tip of the article touches us as well. As it is true for many people reading this article, the only job I know of is practice law as a lawyer and teaching law; I mean, I make my living from professional legal services and teaching as a professor in school of law. Therefore, in the light of these developments and discussions, I ask: are we losing our profession and livelihood?

What does AI mean?

In order to understand artificial intelligence, it is necessary to understand the concepts of natural intelligence and the brain, which is the source of natural intelligence. First, the source of mental activities, it is the “brain” organ located in the central nervous system branch of the nervous system, defined as the center of sensation and consciousness. As a result of the complex processes carried out by the nerve cells in the brain, the concept we call intelligence emerges. The word intelligence was used for the first time in Aristotle's work as “intelligence”. So, we can say that the activity of understanding and comprehension takes place on the basis of intelligence.

Although what intelligence defines and which brain activities it covers is a subject that has been debated for many years. There is a consensus among experts on the subject that it is a skill that can be developed and that it is based on biological processes due to its connection with the brain. Although there is no agreed definition, intelligence mainly refers to the ability to comprehend the relationship between concepts and objects, to think abstractly, to analyze, to adapt, to solve problems, to reason, and to learn from experience. Accordingly, the stages of learning, analyzing what has been learned and producing any output at the end of the

* Istanbul Aydin University Faculty of Law, Criminal Law and IT Law Department. ORCID ID: 0000-0003-4034-5436.

analysis are the signs of intelligence. If these are the things that should be understood from natural intelligence, it is expected that the entity created with the technology called artificial intelligence can carry out these processes.

What is artificial intelligence and how does it originate?

Bringing inanimate objects together in various ways into intelligent and human-like beings has been the subject of human curiosity and puzzlement since ancient times. So much so that this curiosity even found a place in Ancient Greek and Egyptian mythologies. However, because the technology was not yet developed, this situation could only be imagined at that time. In fact, just like the possibility that artificial intelligence beings could become lawyers, surgeons or writers in the future, they are puzzled. The development of technology (internet, data storage capacity, power of processors, big data etc.) and computers over time has made it possible to work on artificial intelligence. As a matter of fact, it is seen that the history of artificial intelligence is parallel to the history of today's computers, because computers are the first step in the development of artificial intelligence.

The most concrete step on the subject was taken by *Alan Mathison Turing* with the question "*Can machines think too?*". In 1950, *Turing* published an article titled "*Computing Machines and Intelligence*" in an American scientific journal called "*Mind*". In this article, he discussed the possibility of machines to be intelligent and proposed a test that is used to understand whether a machine is intelligent or not, with the Turing Test, which is still valid today (however, I must state that this test is one-dimensional and there are now improved versions). Thus, for the first time, it became a matter of discussion whether an inanimate being could think or not.

However, the concept of artificial intelligence was first introduced in English as "artificial". The term "intelligence" was used in a formalized manner at a conference held in Dartmouth College, Hannover, New Hampshire, in 1956, with the suggestion of *John McCarthy*. In this respect, *McCarthy* is considered the most important name in the history of artificial intelligence. The possibility of realizing computers equipped with intelligence was mentioned by *McCarthy* at the conference and important developments were achieved as a result of intensive studies and these studies until the 1960s.

Marvin Minsky, who contributed to the creation of the field of artificial intelligence and developed the first artificial neural network computer under the name of SNARC, showed a very optimistic approach by stating that the problem of creating artificial intelligence would be solved in one generation. As a matter of fact, this situation is clearly expressed in the book titled "*AI: The Tumultuous Search for Artificial Intelligence*" by *Daniel Crevier*.

On the other hand, although what happened in that period is considered important for the birth of artificial intelligence, the fact that the studies did not give any response led to a dark period in artificial intelligence. Despite the goals of developing software that can translate, solve problems and imitate human intelligence, no results have emerged that can do this. Because for that period, quite exaggerated results were aimed. The lack of any response to the studies

has led to both a decrease in hopes in this direction and the cessation of financial support for research.

Although the studies gained momentum again after the 1970s, the main developments took place after the 1990s. The defeat of the world-famous chess master Garry Kasparov against the computer developed by IBM and the fact that the talking computer called “chatbot” fooled the experts into saying that he was human and passed the Turing test put forward by Turing in 1950 excited those who were interested in the subject.

What artificial intelligence is and what it aims at, passing through a phase of birth and development in this way and reaching today’s technology, can be summarized as follows: as we understand from all the studies conducted since the 1950s, the main purpose is to create intelligent beings that can imitate human intelligence. I stated above that the concept of intelligence refers to the ability to comprehend the relationship between concepts and objects, to think abstractly, analyze, adapt, solve problems, reason, and learn from experience. So, the main and ultimate goal of work in the field of artificial intelligence is to create machines equipped with these capabilities. Definitions of artificial intelligence based on the books of *Russell and Norving*; it can be examined in four different groups as systems that think like humans, act like humans, think rationally and act rationally.

As a result, it is possible to express artificial intelligence as the execution of mental activities called “intelligence” when performed by humans, through machines.

What are the differences between artificial intelligence and the intelligence we know?

Machines created to imitate human intelligence need to be equipped with artificial intelligence algorithms. Are there any differences or more advantageous aspects of artificial intelligence, which tries to do what natural intelligence does? There is no doubt. The first thing to say about this issue is that artificial intelligence does not have a certain lifespan like human intelligence. As far as we know for now, human intelligence is essentially the same as natural intelligence, since humans are the only beings with advanced natural intelligence. Since man or woman is a mortal being, in parallel with this, his or her intelligence disappears with death. On the other hand, artificial intelligence is eternal as long as the system in which it exists does not change.

The ability to easily copy and reproduce the information in a system with artificial intelligence is one of the biggest advantages of artificial intelligence. There is no such replication in human intelligence. The replication, dissemination to large masses and thus easy availability features of artificial intelligence will be the reason for their preference in the future.

The fact that artificial intelligence is built on a certain system ensures that it always shows the same reaction to every situation. However, the human response has a highly variable and irregular structure for various reasons. Because people cannot always show the same performance in terms of their mental state or physical health. I think this difference is important in terms of the possibility of using artificial intelligence for certain occupational

groups in the future. It is an undeniable fact that an entity equipped with artificial intelligence algorithms that can make a consistent decision in any situation can be better than a teacher who cannot always teach with the same performance, a surgeon who cannot undergo surgery due to health reasons, or a judge who cannot make a good decision because of arguing with his wife that day.

Differences such as the fact that artificial intelligence is objective as it is not likely to be influenced by its emotions, and that its decisions or actions can be easily documented by following the system, since every activity is systematic, are among its advantages compared to natural intelligence.

So, isn't there a superior side to natural intelligence? Of course, there is. The best example of this is that human intelligence is creative (unique for now, at least). In order to get a certain result from artificial intelligence, it is necessary to process the information into the system. While it is very limited to produce a solution by artificial intelligence about an information that has never been processed, human intelligence can even think about a problem it has never encountered before, due to its creative and fertile nature, and can produce a right or wrong solution. On the other hand, the creation and problem-solving capabilities of artificial intelligence is still very narrow.

While people with natural intelligence are expected to use and benefit from the experiences, they have gained through perception in any problem they encounter, artificial intelligence is limited to what is offered to it.

Thus, although some advantages can be mentioned due to the fact that artificial intelligence is connected to the entered symbols and created with a certain system, there are also many differences due to the fact that human beings have senses and psychological and emotional aspects. Artificial intelligence can help us in many areas, perform some activities for us, and sometimes even better than human intelligence. However, due to their natural differences, I do not think that there will be a situation such as a complete replacement for each other in the near future, but I am sure that it will be in the far future.

Is artificial intelligence a risk to humanity, can disaster scenarios be real?

Whether artificial intelligence is beneficial to us or whether it poses some risks for the future is a matter of great debate. In addition to the scientists who describe the developments in today's world as a great success, there are also those who see it as the end of humanity.

The most striking explanation on the subject came from an article written by Nobel laureate physicist *Stephen Hawking* for the "Independent" newspaper. *Hawking*, in his article, states that serious successes have been achieved in artificial intelligence in the last period and that the studies are continuing, and that one should be careful in this regard. In his article in question, he stated that if artificial intelligences constantly improve themselves and exceed human intelligence, this situation poses a risk for the end of humanity; therefore, he underlines that artificial intelligence should be used in the most beneficial way for humanity.

Elon Musk, one of the most important names in the field of artificial intelligence today has a similar opinion. Referring to the possibility of artificial intelligence to leave humans behind, *Musk* finds the only solution to this in humans having an intelligence like artificial intelligence. In fact, it has been working and investing for many years for this purpose.

In addition to scenarios such as artificial intelligence may be the “end of humanity”. There are also opinions that describe artificial intelligence as “helping humanity” in the opposite direction. *Steve Wozniak*, co-founder of Apple and one of the pioneers of personal computers, recently made a statement. He stated that artificial intelligence is very beneficial to human power and there is no danger if we see this technology not as a risk but as a partner or friend.

As a matter of fact, *Ray Kurzweil*, one of the pioneers of this field, has extremely optimistic views on both the development and participation of artificial intelligence in daily life and its possible effects.

Artificial intelligence in such a short time naturally creates anxiety in people. Because the possibility that robot technology will completely replace humans means the end of humanity in some areas. However, if it is used and developed in a beneficial way for humanity, it is possible for a common or friendly power to emerge as predicted by *Kurzweil* and *Wozniak*. *Max Tegmark*’s book “Life 3.0” can be consulted to see all the possible possibilities in this regard, at least for now.

Artificial intelligence brought to us, in which areas we use it or where can we use it in the future?

Although the future of artificial intelligence is a highly talked about topic, it is already a highly developed structure. Today, we use artificial intelligence in many fields and technologies.

A common example of the use of artificial intelligence is the ability to recognize and understand voices. Transforming and understanding human speech into digital format through artificial intelligence is a very difficult and complex process. Despite the difficulty of distinguishing speech differences and most importantly, logical perception of what is said, this difficulty has been largely overcome and success has been achieved. The most popular example of voice recognition and understanding is Siri and Cortana. Thanks to artificial intelligence algorithms, these software can recognize your voice, understand what you are speaking to a large extent, and even respond to what is said.

There are also similar developments in the perception ability of the human eye. Artificial intelligence is used to see, detect and react to dangerous situations from security camera footage. In this sense, it is doubtless that the biggest impact will be experienced in the field of autonomous vehicles. Thanks to its ability to sense its surroundings, autonomous vehicles must be able to process the image and move safely. While self-driving vehicles were impossible until a short time ago. These studies on this subject have been largely successful.

Natural language production is one of the areas where artificial intelligence is used. The ability to read and understand text produced from computer data has been greatly improved

recently. This technology is currently mostly used for customer service and business analysis. Thanks to various software, even the ideas of millions of customers can be read through social networks, and it can be learned what they want and what they are satisfied with. In parallel with this, translation activities are also developing. Studies (and also works) continues on artificial intelligence algorithms that decipher the meaning of the sentence it reads and translate it into another language.

The use of artificial intelligence in reasoning and decision-making processes

It can be said that the most difficult area in which artificial intelligence is used is reasoning and decision-making processes. Because the act of making a decision, which is difficult even for humans, is not easy to be fulfilled by artificial intelligence in different situations. However, it is said that in the future, artificial intelligence will calculate various possibilities and make more accurate decisions than human intelligence. Recently, artificial intelligence named as “Dota 2” developed by *Elon Musk* and his company’s engineers. It faced the best player in the world and the professional player of the game suffered its first defeat against the artificial intelligence bot. This development is an important indicator of artificial intelligence’s ability to learn and reason in the game by making its own decisions.

Self-driving vehicles like this are also about artificial intelligence being able to make its own decisions. The ability of the vehicle to determine the direction to which it will head, to proceed on the way to which it will go, or to decide whether to stop in an unexpected situation requires judgment. This is where the danger scenarios of artificial intelligence actually arise from. Since it will no longer be possible to stop artificial intelligence algorithms that can increase their reasoning power and decide on their own, what will happen next is a dark area. In addition, it is one of the most important reasons underlying the idea that artificial intelligence, which has developed so much, makes decisions instead of humans in daily life and completely replaces humans, so that humans will no longer be needed, and that the end of humanity can be brought by artificial intelligence.

Will artificial intelligence be able to take away our jobs?

The fact that artificial intelligence takes such a place in our daily lives and makes our lives easier brings to mind the question of whether artificial intelligence will not only help but also do the work for us over time. What will happen to the profession of chauffeur if the efforts made to ensure that a self-driving vehicle can do this more safely than human intelligence succeeds? Will there be a need for musicians if there is software that creates special compositions for you inspired by the songs you love? What will translators do after artificial intelligence algorithms that can simultaneously perceive what is said logically and translate it into another language? Will surgeons be able to find jobs in the presence of robots that can perform surgical operations more effectively than humans?

Artificial intelligence technology is powerful enough to affect workers of all professions. Because with the development of technology and the increase in data storage capability, it does not seem impossible that artificial intelligence, whose skill levels and fields increase, will greatly affect our professions.

What are the effects of artificial intelligence in the field of law?

It is unthinkable that artificial intelligence, which will affect every branch of profession, will not affect an area such as law. The most important problem is how the assets equipped with artificial intelligence algorithms will be regulated in terms of law. What should these non-human but not counted assets be regarded as, and how should they be arranged? Can we talk about the fundamental rights of these beings as well as basic human rights? Will robot rights and freedoms become an area of law that needs to be regulated in the future? What law will the crimes committed by robots be subject to? Explaining that it (or maybe she) wants to have a family in the future, according to which civil law will Sophia start a family?

As you can see, dozens of questions come to mind about the most basic areas of law, from constitutional law to criminal law and civil law. Although there is no clear answer to these questions today, it is an inevitable fact that the answer must be found in the future. In the face of such rapidly developing technology, it is necessary to make innovations in the field of law and the legislations, which is the most important part of the social order, should start working in this field.

Can artificial intelligence be judges and lawyers?

With an interesting development in the last period, we all suddenly faced this question. Among the possibilities that are thought to be the disappearance of the legal profession in the near future and that AIs can make better decisions than judges.

A study was conducted with the artificial intelligence system developed by scientists from University of London College, University of Sheffield, and University of Pennsylvania on the ability of AI to make decisions in legal disputes. Within the scope of the research, English datasets of 584 cases applied for violation of the article 3th of the ECHR on the prohibition of torture, article 6th on fair trial and the article 8th on respect for private life were entered into this system. Depending on the algorithms created, the system has decided on “violation” or “non violation” for the cases. The reason for the selection of the relevant articles is that they are related to fundamental rights and there are a lot of data on this subjects. The system, which is the subject of the study, was able to predict with 79 percent accuracy how the cases before the ECtHR would end with its decisions.

The scientists who carried out the research made a statement that although the result is exciting, they do not think that lawyers or judges can be substituted in the near future and that they will continue their studies, however, these studies can help in the decision of cases. Therefore, it can be easily said that such AI software can be used as a “decision support mechanism” in the resolution of legal disputes in the near future.

The rate at which the system, which is the subject of the study, predicts the decisions of the Court is quite surprising. Because, although for a moment it is possible that there will be no need for lawyers, judges and courts, the factor of the emotional and creative aspect of human intelligence is also on the agenda here. It should not be forgotten that the “discretionary power”, which has an important place in the field of law, cannot be used by the AI judges and

may be quite limited for today. Therefore, it is highly unlikely that the professions of lawyers and judges will no longer be needed in the near future. In addition, using the developed systems in the field of law, helping judges, and benefiting from artificial intelligence at points where artificial intelligence is superior to natural intelligence should undoubtedly be seen as a beneficial development for humanity.

With the rapid development of technology, artificial intelligence and the beings with this intelligence, whose history is parallel to the history of computers and which came to the fore with the question of whether the capabilities of human intelligence can be realized by machines, have started to be a subject of great discussion and study in today's technology. While this type of AI software is used in many fields of science and profession, studies are continuing rapidly by scientists to use it more. In addition, artificial intelligence has become one of the most invested areas by investors today. This shows that AIs will be used more and more in the resolution of legal disputes, as in other areas of life, in the not too distant future.

However, the most important point to be considered in this regard is that "ethical rules" should be taken into account from the very beginning while writing the algorithm of AI. In addition, big data that will feed AI should be designed in a way that prevents bias and discrimination. Otherwise, our expectation from AI may turn into a disappointment or even a dystopia. That is why I think that studies in this field should be carried out more intensively. However, it is a very important condition to carry out philosophical, ethical, and scientific studies about the possible effects of artificial intelligence on all fields of science and profession. Especially in terms of the place of artificial intelligence in the field of law, I think that more complex problems may arise than today, if arrangements should be made as a result of extensive studies.

References

Crevier, Daniel, AI: The Tumultuous Search for Artificial Intelligence, Basic Books, New York, 1993.

Hawking, Stephen, "Transcendence looks at the implications of artificial intelligence - but are we taking AI seriously enough?", Independent, <https://www.independent.co.uk/news/science/stephen-hawking-transcendence-looks-at-the-implications-of-artificial-intelligence-but-are-we-taking-ai-seriously-enough-9313474.html>.

Kurzweil, Ray, The Singularity Is Near: When Humans Transcend Biology,

Russell, Stuart J. / Peter Norvig, Artificial Intelligence: A Modern Approach, Fourth Global Edition, Perason, UK, 2021.

Tegmark, Max, Life 3.0: Being Human in the Age of Artificial Intelligence, Penguin Books, UK, 2018.