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THE REGULATORY CHALLENGES OF ARTIFICIAL INTELLIGENCE

Jolia G.

*Georgian Technical University, Tbilisi,
Professor at Department of Engineering Economics,
Doctor of Economic Science
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Abstract

This article discusses the existence, origin, and distinguishing characteristics of the artificial intelligence and one of its aspects - emotional intelligence. It delves into the nuanced aspects of "strong" and "weak" emotional intelligence, exploring indicators such as the potential of artificial intelligence, robotics laws, and resolutions from the European Parliament related to the regulation of the artificial intelligence.

Keywords: artificial intelligence, digital technology, robot, experiential, singularity.

What sets humans apart from other living creatures is the intelligence. Generally, intelligence encompasses an individual's cognitive abilities and covers logical reasoning, abstract thinking, problem-solving skills, absorbing new information and knowledge, and adaptability to challenges and uncertainties.

Intelligence is quantifiable, as evident from its evaluation through the Intelligence Quotient (IQ) coefficient, leading to variations among individuals. From the various facets of intelligence, one stands out - emotional intelligence (EI). EI, also known as emotional quotient (EQ), is an individual's ability to recognize and understand their own emotions, express empathy, engage in effective communication, and manage their emotional responses efficiently.

In contrast to traditional intelligence, EI introduces five components: self-awareness, self-regulation, motivation, empathy, and social skills [1, p. 442].

Today, the new cognitive category Artificial Intelligence (AI) is actively discussed, encompassing the intelligence of machines and such digital technology that, to a greater extent, simulates human behaviour.

Coming up with the concise definition of emotional intelligence is challenging, as its adaptability is more dynamic, and it is increasingly resistant to rigid categorizations prevalent in contemporary descriptions. It encompasses substantial versatility and practicality, akin to its utilization in business environments and public institutions.

The concept of AI has its roots traced back to the ancient era. However, scholarly consideration of artificial intelligence emerged in the XVII century which was based on the theory of mechanical materialism.

In reality, the creation of the artificial intelligence commenced in the XX century. Notably, British mathematician Alan Turing pioneered the development of the theory of computability in the 1950s. He devised a test, known as the Turing Test, to determine the feasibility of machine intelligence, which, compared to other proposed tests, continues to be widely regarded as one of the most effective benchmarks. As per Turing, the generation of artificial intelligence occurs when one can engage in a conversation with a machine without

being able to distinguish it from a human interlocutor [2, p. 153].

In this context, Turing explored a significant problem. He posed the question, "Can machines think?" The response to this question is negative, as, to date, no machine program has successfully passed this test [1, p. 453].

It should be noted that for the evaluation of machine intelligence, Turing's test is limited, as human intelligence involves cognitive processes that encompass orientation, problem-solving, and decision-making in novel situations [1, p. 500].

In 1954, Italian mathematician Nils Barricelli introduced the idea of "evolutionary modelling," marking a new focus in intelligence research – artificial intelligence.

In 1956, American researcher John McCarthy introduced the term "Artificial Intelligence" and initiating the era of the "cognitive" machines.

Despite the numerous attempts, the creation of the artificial intelligence faced a delay. In fact, the new era of its development began in the 21st century. A personal computer was able to execute 10 billion commands per second only in 2008. Yet, the realization of human-level artificial intelligence is still distant, as it is only the initial/first phase of the development [1, p. 457].

However, it must also be noted that in recent years, intellectual systems (neural networks) have made significant progress, as active utilization is observed in various spheres (science, economics, politics, etc.). The classification of human intelligence is diverse. One of them is the classification of intelligence into "strong" and "weak" artificial intelligence.

In the case of a strong human intelligence, a machine-robot thinks like a human being, while in the case of weak intelligence, it runs behind that of a human. Currently, the majority is programmed to perform tasks based on logical principles, but in the future, strong artificial intelligence robots will be able to actively analyse various situations and react adequately.

It is noteworthy that, in the next decade, the main issue will be the interaction of humans with technology.

In this process, conflicts may arise due to the rapid development of technology, while human adaptability changes slowly. As a result, as technology advances rapidly in our society, we will increasingly feel and experience its “destructive” power. It is important to note that, if until now machines were discussed in the context of increasing productivity, in the digital society the robot is perceived as a working tool.

The goal of the American innovator Elon Musk is to create a 'Friendly Artificial Intelligence.' In his view, a person and artificial intelligence should work together closely: if a person's brain can integrate with an AI that in turn is connected to a special network, incorrect actions by humans can be prevented.

Scientists predict that by 2050, there will be two types of intelligent species - genetic (natural) human and technologically constructed humanoid hybrid. According to Gordon Moore's law, processor performance approximately doubles every year and a half.

Now let's imagine that this exponential growth has become exponential *per se*. This phenomenon is called “singularity”, meaning that when a computer is capable of creating an artificial intelligence which is stronger than the human intelligence.

Question: What happens when the computer's intelligence directly competes with that of its creator, and how can the outcomes be controlled?

Prominent scientists (Stephen Hawking and Ray Kurzweil) suggest that if the development of computer intelligence continues at the current pace, singularity will become a reality within the next 20-30 years. This will happen gradually and imperceptibly. Machines will become more complex, replacing us in various tasks, and we will in turn get strongly attached to them.

In order for an AI to replace a human-being, it needs to comprehend the object, communicate with it, exhibit understanding of emotions, and react appropriately to different situations. Robots do already perform mechanical tasks efficiently, but can they truly simulate human emotions (love, affection, excitement, outrage, etc.)? [3, p. 395]

It is less likely, given that the emotions of an individual along with the genetic heritage has evolved throughout human history. The expression of irrational motives needs to be simulated for achieving human-like behaviour. If robots are capable of replacing humans at work, this will increase the work efficiency significantly, while we can invest an additional time in the creative process.

Generally, when a human force is replaced with a mechanical one, it vastly reduces the labour costs (robots do not require salaries or social benefits), however a question still arises as to why do we cherish our free time less?

Perhaps because we have a magnified ambitious anticipation about a creative reflection on what can be achieved or done.

There is a speculation that the increase in automation may lead to mass unemployment and an enforced idleness. However, can a machine replace us in the fields of the traditional professions such as education, law, art, archaeology, etc.?

Who knows what the future holds!

Everything we assess shapes our perception, altering our views, but why doesn't its fundamental nature change?

Advanced digital technologies, specifically the mobile computers, are capable of not only “performing” for us but also influencing our reaction patterns exhibited towards one another. The landscape in a modern society is fundamentally transforming, which in turn affects our beliefs, emotions, knowledge, perspectives, disposition, etc.

On average an adult is engaged with computers, tablets, or smartphones for 5-6 hours daily. And if this trend continues, it is thought provoking to understand the consequences when the speed of the internet communication accelerates?

We may find ourselves in a metalized, automated, extraverted sensing and fast paced environment triggered by digital interventions, lacking peace and compassion that is crucial for human interaction and self-awareness. While we learn filtering and processing the information as our cognition becomes faster and more adaptable, yet, what do we sacrifice?

We sacrifice a reflexive thinking, creativity, ability to exhibit empathy and compassion, perception of the reality, intimate space, as we absorb the information from electronic screens and headphones; and all of it resulting in being less and less indifferent and detached.

Question: How does the foregoing affect the neurophysiological criteria/signals?

The answer is rather simple – our “plastic” brain will respond to stimuli based on what the “others” may offer it. And, through passage of time if such behaviour is religiously adopted, it may lead to a brain (cerebral) atrophy. Due to the lack of brain exercise, the cognitive function i.e. an independent creative thinking can be drastically restrained.

Today, the necessary and essential information is no longer sought in books; instead, we rely on Google's search system, delving into its search results extensively. This practice negatively affects the functioning of the brain, as we entrust the system to find the relevant information, and consequently we stimulate the cognitive laziness.

The idea is not far-fetched that such behaviours may have a more profound impact: we may stop reading books (and such traits can already be observed), the notion of “reality” may lose its intellectual significance.

Bionic eyes and limbs, sensory nerves, cardio-simulators, etc. are already well implemented in today's practice. Is there a possibility that a human may in fact integrate with an AI/robot?

Starting anew, we create or adapt our physical bodies. We attempt to enhance our cognition. Nevertheless, there may be a risk that we cease to be individuals and become “something else”!

It should not be forgotten that the intellectual capacity of an artificial “mind” tends to double almost annually, while a biological one remains unchanged. The main challenge is not the creation of individual organs with their distinct functions, but rather orchestrating their coordinated functioning.

In the field of medicine, the term “cosmetic neurology” encompasses plastic and cerebral reconstructive surgery. With the “aid” of the nanotechnology we may perceive an artificial matter as a real thing and real may seem unnatural.

Question: What may happen when AI integrates with the physical body? Could we create an immortal robot? A matrix?

Certainly, in the long run the ultimate “integration” with new technologies is inevitable and an expansive evolution is likely to transpire. The realm of possibilities extends to genetics, robotics, nanotechnology, AI, and many more that has yet to be contemplated and created. Will we, through their amalgamation, attain a new hybrid? Will progress, if any, be all-encompassing? And if so, by what means will it be guided? Can we find ourselves redundant?

Thus, the regulation of artificial intelligence stands as one of the most serious challenges in the history of civilization, as its regulation mechanisms are either non-existent or incomplete. Uncontrolled AI, potentially poses a great peril, especially in a scenario when, an AI’s cognitive and intelligence capabilities come close to or surpass those of a human being [4, pp. 76, 83].

What complicates the establishment of norms regulating artificial intelligence is that the technology is rapidly evolving, while corresponding regulatory legislation lags behind the demands of the concurrent trends. The emergence of deepfake videos produced by AI is becoming increasingly rampant. These videos, known as deepfakes, convincingly mimic the reality.

The private and public sectors have a keen interest in investing into AI, because of its dynamic pace of the development. Therefore, the introduction of the “smart infrastructure” (e.g., “smart cities”), “smart transportation” (e.g., auto-pilot/self-driving vehicles), robots in the medical field (e.g., robots performing surgeries) and the possibility of mass development of production without human involvement, requires creation of the regulatory norms.

It is also noteworthy that the autonomous functioning of artificial intelligence in various fields (e.g., healthcare, defence, etc.) poses challenges for its effective control. In such scenarios, a robot becomes an autonomous subject, rather than an object/instrument used for performing a specific task. It may become relevant to scrutinise the degree of accountability of the robot or its owner. Additionally, in specific cases it may be crucial to identify the matters of registration (of a robot) and the respective civil liability. According to the American writer, Isaac Asimov’s three laws of robotics: 1) A robot may not injure a human being or, through inaction, allow a human being to come to harm; 2) A robot must obey orders given to it by human beings except where such orders would conflict with the First Law; and 3) A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

There is an opinion that the artificial intelligence should 1) be an object of copyright; 2) be afforded a

special type of ownership; 3) have form of a legal person (legal entity); and 4) be regulated as a new legal category.

In addition, in the first scenario, an AI can be subject to the legal norms of the intellectual property rights, e.g., its “creator” could be susceptible to financial sanctions. However, such practice is questionable since national legal regimes do not explicitly recognise the artificial intelligence as an object of IP rights.

It is interesting to scrutinise AI’s IP rights over musical compositions, literary fiction, artwork produced by the artificial intelligence.

In relation to the second scenario (where artificial intelligence is afforded a special type of ownership) e.g., if we consider it as a self-driving autonomous vehicle, who shall be the person to whom the robot’s harmful behaviour is actually attributable, who shall be liable for any committed crime or damage/harm sustained by any person triggered by such vehicle/robot: shall it be the owner of the vehicle? The manufacturer? Or the creator or the respective AI?

These questions do not have straightforward answers.

Notwithstanding the consequences and risks of AI’s unpredictable actions could be severe, it is important to acknowledge that over or strict regulation of artificial intelligence may lead to hindering the innovation and its development.

As per the third scenario, given its artificial “characteristic” an AI should have a form and status of a legal entity. In general, in all legal jurisdictions a civil liability may be attracted by legal persons in specific circumstances. However, such an analogy with an AI may be problematic, since in the case of the legal entities, the liability is triggered due to the actions of the individuals representing or acting on behalf of the former. And the AI does not conform to any of the foregoing.

The only reasonable solution in this case is to assign AI to the fourth scenario, i.e. define it as a new legal category and implement the respective new rules for regulating it.

Under “Civil Law Rules on Robotics” a Resolution adopted by the European Parliament in 2017, autonomous robots were proposed to be granted a specific legal status of an “electronic persons,” and corresponding rights and liabilities shall be bestowed upon their manufacturers and owners [5].

The same Resolution establishes the “Robotics Code of Conduct,” guided by the ethical principles: benefit, safety, autonomy, and fairness.

During the 2020 Economic Forum held in Davos, an initiative emerged to create the “World Constitution on Ethics in the Sphere of Artificial Intelligence” as a fundamental legal basis.

Various countries have issued documents on the regulation of robotics, such as the “Global Map for the Regulation of Human Intelligence” adopted by the United Kingdom; the “National Strategy in the field of the Artificial Intelligence” implemented by France; the “National Strategy of Artificial Intelligence” by Japan and the “Concept of the Development of the New Generation of the Artificial Intelligence ” by China, etc.

In Georgia, a few research has been conducted at the Business and Technology University (BTU). However, the adoption of a national strategy for AI could position the country as a leading player in the field of the digital services in the South Caucasus region.

In 2023, a new era in the AI space began with the introduction of ChatGPT, developed by Open AI. It's creator (ex-Google VP) Jeffrey Hinton, a prominent figure in deep learning methodology, played a significant role in the creation of the artificial intelligence.

The company Humane introduced a novel product, AI Pin, which is described as "less-intrusive, screenless, and sensitive." It is a compact mechanism, attached on the peace of clothing and reacts to voice, gestures, hand movements, features laser visualization, translation, text-to-speech, organises messages, emails, and multitasking, etc. [6].

Currently, almost every major IT company is actively engaged in creating and developing artificial intelligence. Chinese technological giants like Tencent, Alibaba, Baidu and many others are notably active in this field.

On December 9, 2023, Members of the European Parliament, representatives of national governments, and experts from the European Commission agreed to pioneer on introducing legislative framework on "Artificial Intelligence." Europe thus became the first continent to establish comprehensive rules for the use of AI. However, this does not preclude start-ups and subsequent research from making significant contributions to the field.

The reached agreement regulates face recognition by means of AI, the use of the same by the judicial and law enforcement entities and the scrutiny of the AI systems like ChatGPT [7].

This agreement ensures the establishment of a unique legal framework in the development of the AI technologies produced and sold in the EU and ensures the safety and protection of the fundamental human rights and public values.

Conclusions:

1. It is imperative to determine the status of artificial intelligence and ensure that its functioning adheres to the specific principles.

2. The consequences may pose challenges, as increased funding and resource allocation in the advancement of AI as opposed to the development of the human cognition.

3. The global community must be cautious about the widespread deployment of AI systems, ensuring collaboration rather than its competition with humans.

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