

Artificial Intelligence Laws, Challenges and Socio-Economic Impacts

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Abstract

The article examines a few socioeconomic hazards associated with the use of artificial intelligence (AI) in several industries. Additionally, shortcomings in the current legal framework governing artificial intelligence-related activities are examined. The article provides clarification on matters pertaining to the allocation of culpability for specific legal ramifications arising from artificial intelligence operations. Additionally, standards and guidelines that must be followed to safeguard personal information when using AI are illustrated. The essay highlights the significance of providing transparency and responsibility for this technology as one of the issues that people have with artificial intelligence. The paper simultaneously analyzes issues related to the relationship between artificial intelligence and intellectual property as well as the acknowledgment of property rights for AI-generated intellectual products. Additionally, the effects of artificial intelligence on the economy at both the macro and local levels are examined. Concerns including productivity, competition, shifts in the character of the labor market, rising unemployment, and the escalation of social and digital inequality due to the use of this technology are taken into consideration. Additionally, the benefits and dangers of human-robot cooperation are assessed. The article illustrates the greatest risks posed by artificial intelligence: the production of false information and fraudulent material, which leads to serious issues. Techniques for preventing those threats are analyzed from both a legal and technological perspective. Additionally, the dangers of using AI in vital domains like health and the military are outlined.

Key words: Robots, Digital Inequality, Artificial Intelligence, Personal Information, and False Content

Introduction

It is predicted that civilization will enter a new stage of growth as a result of the advent of smart systems, devices, and robots and their transformation into an essential aspect of human life. For the first time in human history, a new socio-technological society is based on the further intellectualization of the Internet and the development of collective artificial intelligence as the next phase of artificial intelligence technologies.

Artificial intelligence is quickly permeating human existence and advancing societal progress. The problems of gathering and processing vast amounts of data from smart devices such as sensors, video cameras, etc. connected to different things become pertinent at this point. The most sought-after technology in the world right now is artificial

intelligence. Artificial intelligence is increasingly being used in a variety of industries, including the economics, management, manufacturing, services, healthcare, education, security, and transportation. Artificial intelligence technologies are expected to expand quickly worldwide. In addition to being global leaders in politics, the military, and the economy, these nations are also at the forefront of the development, export, and use of artificial intelligence technologies. In an effort to become more globally competitive, several nations implement artificial intelligence-related development policies and pay close attention to this field's advancement.

Global GDP is expected to grow by 14% by 2030 as a result of the acceleration of artificial intelligence development and adoption, contributing \$15.7 trillion to the world economy, according to the findings of a study carried out by data analysis firm PwC [1]. Data from the Internet of Things (IoT), which is many times larger than the data produced by the present "Internet of People," is predicted to be the catalyst for the next wave of the digital revolution. It is anticipated that widespread use of AI in the economy will enhance automation, standardization, and product and service customisation.

Nevertheless, despite all of artificial intelligence's benefits for human endeavors, there are a number of significant issues and dangers associated with its use and advancement. Some of those issues and dangers provide major barriers to the advancement of artificial intelligence, while others cause people and society to experience severe distress and anxiety. The article categorizes and groups issues and risks, explains how they arise, and discusses the risks and worries they raise. Proposals are presented to address the issues raised and mitigate risks while taking into account current procedures and methods.

Literature Review

Legal Issues Associated with Artificial Intelligence Use

All states' legal systems must adapt to the technical difficulties of the modern day, particularly the proper development of artificial intelligence technologies. First and foremost, regulatory frameworks must be created in order for the artificial intelligence sector to grow sustainably. Legal regulation of the relevant field is progressing in nations that want to maximize the benefits of artificial intelligence and associated technology. This originates from the employment of robots, drones, and other various gadgets and software systems in both personal and professional contexts. It must be acknowledged that contemporary technology have the potential to harm society, people's health, property, etc. Therefore, it is necessary to give this issue more attention and to build a sufficient normative-legal foundation.

It should be mentioned that artificial intelligence technologies have the potential to cause serious issues on a national and worldwide scale because of their global nature on virtual platforms. As a result, nations must work together to counter potential threats in the future and actively contribute to their prevention.

In general, two kinds of hazards, direct and indirect dangers associated with pertinent technologies that may result in specific legal repercussions can be identified by analyzing trends in AI research and its application.

The risks associated with the direct effects of these or other threats that arise as a result of the usage of AI are known as direct legal risks. Among these dangers are the following:

Intentionally endangering people's health and life, their constitutional rights and liberties, their honor and dignity, breaching public safety, and utilizing artificial intelligence to act against the government.

The risks associated with unforeseen hazards when utilizing artificial intelligence are known as indirect legal risks. Among these dangers are the following:

1. Unintentional mistakes in AI system software (mistakes committed by the AI system developer);
2. Mistakes occurred during the AI system's functioning (errors made by the AI system).

2. AI Activity's Liability Concerns

One of the key issues in this sector is figuring out who is legally liable for AI action. The primary responsibilities have not changed since Isaac Azimov's time: preventing harm to humans, their property, and the robots themselves. This is true even if there has been a substantial evolution of thinking surrounding AI usage ethics.

There are currently very few social and legal responsibility concerns associated with AI used in large-scale data analysis, intricate mathematical computations, and other domestic and foreign industrial and service activities. Nevertheless, not every process carried out using AI is finished to the required standard.

Let's examine surgery carried out by robotic surgeons. Globally, the number of surgeries carried out by medical robots is quickly increasing. However, there are numerous instances of robot-surgeons malfunctioning or making mistakes. Legal systems are still unsure about who is responsible for those errors, though.

Liability pertaining to AI is a significant legal issue. It may be challenging to identify potential liability as AI systems evolve. To create and determine culpability for the behavior of individuals and organizations using AI systems, specific laws and regulations must be adopted.

It should be mentioned that the European Parliament's Resolution 2015/2103 (INL) on the civil-legal regulation of robots, issued February 16, 2017, states that it is impossible to hold artificial intelligence accountable for acts that cause injury to third persons. That resolution states that the owner, operator, producer, or user of artificial intelligence may be held accountable for any harm it causes.

One of the most complicated legal issues pertaining to artificial intelligence and similar technologies is the division of liability for AI activity among its various subjects, including manufacturer, owner, and direct user. A perfect balance between the interests of the state, corporations, and citizens is also necessary to solve this issue.

The potential for AI to harm this process and property increases as top multinational corporations incorporate it more and more into their systems and products. AI's capacity for autonomous functioning and decision-making raises new legal issues. Plaintiffs and courts have started testing the applicability of conventional legal ideas and concepts to harms connected to artificial intelligence products, such as worker robots and driverless cars, because there are currently no statutes covering the damages produced by AI.

The following are pertinent legal principles:

1. Principle of culpability based on the quality of the product;
2. Principles of secrecy and information protection;
3. Fairness principle;
4. The principle of determining objectives.

2.1 Issues in Protecting Personal Data When Using AI

When utilizing personal data for AI purposes, businesses must adhere to both national and international legal requirements. Nearly every country has data protection regulations that address the gathering, use, processing, disclosure, storage, and safeguarding of personal information. The sharing of personal information across nations may also be restricted by these rules.

2.2 Problems with the Fairness Principle

The majority of data protection rules mandate that businesses handle personal data fairly. The fairness concept seeks to uphold people's rights while letting businesses choose how to handle their personal information. In order to do this, companies must:

1. Explain to the people how the company would gather, utilize, and handle their personal data in an understandable, straightforward, and transparent manner;
2. Taking action to stop discrimination against people.

The complexity of AI techniques may make it difficult for enterprises to adhere to the fairness principle. Machine learning algorithms, for instance, may exhibit flaws in their creators. Incomplete data, oddities in the data, and algorithmic mistakes can also produce inaccurate results.

2.3 Problems Associated with Goal Specification

Organizations are typically required by data protection legislation to do the following:

1. Gathering personal information for specific, disclosed, and lawful objectives;
2. Not processing data in a way that is incompatible with those goals, with the exception of a few specific instances.

2.4 Issues with the Data Minimization Principle

Organizations must do the following in order to minimize data:

1. Not utilizing more data than is required to meet specified processing goals;
2. Reducing the amount of time spent storing data.

2.5 Issues with Accountability and Transparency in AI

Transparency and accountability are among the most significant legal concerns pertaining to artificial intelligence. People may find it challenging to grasp how decisions are made by AI systems because they might be opaque and complex. To guarantee that AI systems are clear and understandable and that humans can contest AI-made judgments, specific laws and regulations are required.

For instance, following ChatGPT's widespread adoption, many people began to inquire about the training process for this OpenAI model. OpenAI does not now wish to make this process public and transparent. The public is unaware of ChatGPT's architecture, how it was trained, what data it used, and where it came from. It is understandable to be concerned about the lack of accountability and transparency surrounding this technology.

2.6 AI transparency can be ensured in a number of ways:

1. **Open source:** disseminating AI system codes and algorithms so that users and researchers can examine and comprehend them.
2. **Descriptive AI:** Descriptive AI creates algorithms that provide a clear explanation of methods, choices, and training procedures.

3. **Standards and regulations:** To guarantee AI transparency, industrial standards and regulations might be implemented. This makes it easier to comprehend how AI systems function and make judgments.
4. **Independent audit** and assessment processes contribute to the equitable and moral operation of AI systems.
5. **Protection of personal data:** To safeguard users' right to confidentiality, transparency must be adhered to and procedures for collecting, processing, and using personal data must be made known.

2.7 Intellectual Property Concerns with AI

Systems of intellectual property were created to encourage human creativity and innovation. However, after the widespread use of AI technology in intellectual innovation processes, new concerns about intellectual property have emerged:

1. Does AI-based creativity and innovation require intellectual property incentives?
2. How can human creativity and innovation be balanced with AI creativity and invention?
3. Does the development of AI necessitate modifications to intellectual property laws?
4. Does the current intellectual property system need to be altered to provide fair protection for works and ideas produced by AI?

These days, various AI programs are employed to develop and utilize scientific, literary, and artistic works. At the same time, researchers and students use scientific writings that AI programs give for their own work. The topic of intellectual property rights is brought up by all these procedures. It raises the question of who wrote those works: the AI developer, the AI software, its owner, or its user.

Performing intellectual or creative tasks while utilizing artificial intelligence technologies, or whether such creativity is connected to a distinctive human trait, is one of the most contentious topics.

Additionally, there are serious issues when students and researchers use the increasingly popularized ChatGPT to generate scientific articles [8]. The development of such opportunities in the face of legal and technological challenges in the fight against plagiarism exacerbates these issues.

AI must be protected by intellectual property laws if we consider AI to be an object of intellectual property rights.

As demonstrated above, intellectual property created or assisted by AI is not protected by a universal legal framework. Property rights laws pertaining to AI-generated products are still developing, and many nations have unresolved problems in this area. However, there are a number of ways to safeguard AI-generated items' intellectual rights:

1. **Human authorship:** acknowledge that humans are the real creators of art and that AI is merely a tool.
2. **AI authorship:** Acknowledge AI's autonomy as a writer. However, since writing rights are restricted to humans in many nations, it might complicate current laws.
3. **Regulations** pertaining to private property rights should be applied to works created by AI.

4. Patenting and licensing: granting patenting or product licensing rights to businesses that offer AI innovation capabilities. For instance, in its system of patent classification, the US Patent and Trademark Office (USPTO) acknowledges AI as a kind of patent.
5. AI-generated items are automatically classified as being in the public domain, which means that anyone can use them for free.

Every strategy has a rationale, benefits, and drawbacks. Future technological advancements and the formation of public opinion will determine how AI creativity laws grow in the future.

2.7 Research Gaps

1. The goal of this study was to close the knowledge gaps about potential cybersecurity threats caused by malevolent applications of AI and ML technologies, as well as how to employ these technologies to prevent and lessen such attacks.
2. The results of this study may close the current knowledge gaps about how attackers can use automation to target the networks of technology companies and obtain crucial company data. Since AI is still relatively new in the realm of cybersecurity, some academics have looked into the benefits of utilizing machine learning (ML) to identify and stop cyberattacks, but few studies have been done to show how threat actors and cybercriminals utilize AI maliciously.
3. Additionally, it is unclear what AI and ML tools and methods attackers use to target companies and whether they are able to create these tools independently of the public's access to them. as well as how businesses use AI as a fundamental part of their security operations.
4. Additionally, there is no survey on the proportion of AI-based cyberattacks that target tech companies. With this work, the researcher aimed to close the gaps.

2.8 Research Objectives

This study aims to answer important research questions and offer insightful information about the socioeconomic effects of AI integration. These goals consist of:

1. Comprehensive Analysis: To carry out a comprehensive analysis, taking into account various sectors and viewpoints, of the economic, employment, societal, and ethical consequences of AI integration.
2. Identification of Opportunities and Challenges: To determine the opportunities that AI integration presents for innovation, economic growth, and societal advancement as well as the challenges that it presents in terms of inequality, job displacement, and ethical considerations.
3. Understanding Employment Dynamics: To examine how employment is changing in the AI era, including how automation affects job positions, skill requirements, and workforce dynamics, as well as how new job opportunities and the gig economy are developing.
4. Policy and Practice Insights: To give stakeholders, industry leaders, and legislators practical insights to help them manage the challenges of integrating AI, create evidence-based policies, and implement best practices for optimizing AI's advantages while reducing its hazards.
5. Contribution to Academic Discourse: To provide theoretical insights, empirical data, and methodological frameworks for additional study and investigation in order to contribute to the academic discourse on AI integration and its socioeconomic effects.

Methodological Approach

The Systematic Literature Review (SLR) is a research methodology that follows a structured process to methodically gather, identify, and critically examine a variety of current works, including books, dissertations, articles, and conference proceedings. SLR gives readers the most recent information on a particular topic's literature. Its main objective is to examine important facets of the state of knowledge on a certain subject, answering particular research questions and

pointing out areas that need more study.

To accomplish its goals, the study uses a mixed-methods strategy that integrates quantitative analysis, qualitative research, and literature review. The following elements make up the methodological framework:

1. Literature Review: To compile current information and theoretical viewpoints on AI integration and its socioeconomic effects, a thorough analysis of scholarly works, business reports, and policy papers is carried out. This serves as the study's theoretical basis.
2. Quantitative Analysis: To measure the economic, employment, and societal effects of AI integration, quantitative data from reliable sources—such as national statistical agencies, international organizations, and industry reports—are examined using statistical methods. To find connections and patterns, this involves econometric modeling, regression analysis, and trend analysis.
3. Qualitative Research: To gather complex insights and viewpoints from stakeholders, such as policymakers, business executives, academics, and community people, qualitative techniques including focus groups, interviews, and case studies are employed. By giving the results context and nuance, these qualitative insights enhance quantitative analysis.

Data Analysis

Economic Issues with the Use of AI

AI is crucial to the economy and has already had a variety of effects. Globally, there is currently intense competition to gain from it. Economic development and productivity are thought to be fueled by artificial intelligence. By analyzing vast amounts of data, this technology can greatly enhance the decision-making process and boost productivity. Additionally, it can encourage the development of new markets, industries, and goods and services. By doing this, it can boost customer demand and provide new sources of income.

However, AI may be detrimental to society and the economy. One of the main risks of artificial intelligence, according to some experts, might be the emergence of massive monopolistic corporations that are centers of wealth and expertise and could negatively impact the economy. Additionally, AI may enhance the need for individuals with specific talents while removing the need for others, widening the divide between developed and developing nations. The labor market may suffer as a result of the second trend. AI's potential to worsen inequality, reduce wages, and reduce the tax base is another concern raised by experts. There is disagreement over whether and to what degree the related risks will manifest, even though these worries are still pertinent.

The PwC data analysis firm illustrates two primary ways that AI will affect the world economy. The first channel is artificial intelligence (AI), which boosts productivity in the short term by automating routine operations that might affect capital-intensive industries like manufacturing and transportation. This includes the widespread application of technologies like driverless vehicles and robots. Second, facilities that use AI to support and help the current workers are expected to boost productivity. Automation will enhance productivity and reduce the total need for labor.

According to the data analysis firm McKinsey, artificial intelligence (AI) has a big impact on and a lot of economic potential in industries like manufacturing, supply chain management, marketing and sales, and logistics. The transportation, logistics, automotive, and technology industries are already at the forefront of AI application, according to the findings of a Boston Consulting Group survey. PwC's projections indicate that by 2030, AI will provide a profit of at least 10% across all economic sectors.

AI is currently changing on a worldwide scale, and the gap between wealthy and developing nations is widening. Leading AI firms in rich nations will, for the most part, gain more clout than those in emerging nations.

AI's Effect on the Job Market

People have always sought assistance and made an effort to decrease their workloads throughout human history. In order to fulfill their many aspirations, humans have always invented new tools, mechanical systems, etc. They constantly sought to improve their quality of life, acquire new possibilities, and hold a position of power and dominance in both society and the natural world. All of this has resulted in the introduction of new professions, the elimination of existing professions, and the structuring of the labor market in accordance with the reality of each era and level of development. Humanity has the chance to develop "intelligent technological servants" for itself in the twenty-first century. These days, artificial intelligence-based robots and drones might be thought of as "smart technological servants" of humans.

AI technologies replace various aspects of human intelligence, work, and activities. As a result, a new labor market is created as a result of the objective development process, which calls for people to adopt new talents, skills, attitudes, and behaviors. Today, a new sector of the labor market on the digital platform is being formed in our nation by the growing use of online services in manufacturing, security, transportation, trade, public catering, and other industries influenced by artificial intelligence technology. Opportunities to function online in a variety of industries are growing quickly, and workplaces are already becoming virtual.

The present labor market's features are entirely different from those of earlier eras. These days, every individual with the right knowledge and experience can use a mobile phone to do one or more tasks. In addition to being a means of communication, mobile devices are being used in the workplace and as labor tools. In social networks, people make money by providing commercial services, consulting, education, and advertising-marketing. People with physical disabilities are participating in the labor market and inclusive labor, realizing their potential by working online, and gaining opportunities to become active members of the workforce because of the quick development of artificial intelligence and information and communication technologies. However, the virtual labor market's reach is not restricted to any one nation. People meet their financial demands, find employment abroad, and participate in the global virtual labor market.

The advancement of AI opens up new possibilities for intellectual automation and dramatically lowers the cost of conventional automation. Conventional automation technologies have the potential to significantly boost labor efficiency, but they are limited to basic and repetitive jobs due to uniform and specified criteria. In contrast to earlier eras, the period of intellectual automation has produced a new virtual workforce that may be regarded as a new production factor. On the one hand, this tendency increases labor replacement and lessens reliance on physical labor at the current level of production. However, AI can successfully address the intricate labor requirements of many real-world automated tasks because of its learning and self-updating capabilities.

Nowadays, the majority of individuals are worried about how automation will affect their jobs and those around them. Given that most people's jobs serve as more than just a source of revenue, this is a reasonable issue. Additionally, it is a source of status in society, devotion to life, prestige, and a sense of worth. The widespread application of technologies like artificial intelligence, robots, and automation in the economy will inevitably lead to the establishment of new workplaces, including the elimination of current ones or their replacement with new ones. 54% of workplaces will be at risk of computerization, according to the Bruegel Brain Center's projection. Researchers believe that the effects of AI will alter the nature and breadth of workplaces across several economic sectors, necessitating the re-qualification of key personnel.

By 2030, the percentage of jobs with routine tasks or minimal computer proficiency is predicted to drop from 40% to 30% of all jobs. The level of earnings may be impacted by such adjustments. Experts estimate that the category of sophisticated, non-repeating occupations will receive about 13% of the wage allocation. In the near future, jobs with repetitive duties (i.e., minimal or no digital skills) will account for only 20% of global salaries, compared to the current 33%.

AI applications may also have an effect on economic inequality, income distribution, and salaries. Middle- and low-skilled workers may risk lower pay or unemployment as demand for highly trained people with AI skills rises. As a result, shifts in labor demands may have an adverse effect on overall wages and the distribution of total income. Theoretically, productivity and overall income will rise higher and inequality will rise more sharply as AI solutions replace daily labor.

The "sensory-motor skills" of people that perform non-standard and atypical professions, including security guards, cleaners, gardeners, cooks, etc., will be most difficult for AI to replace, according to some researchers. Therefore, while AI has enormous potential to boost productivity and economic returns, it also has equally huge hazards, including polarization of the labor market, growing inequality, and unemployment.

To solve these issues, certain governments implement unique initiatives. One of the programs is unemployment assistance. Another policy is the implementation of pertinent training programs. In other words, low-skilled individuals and those who may lose their jobs as a result of AI can be trained to develop new skills and enhance their current ones. Workers may be able to continue working in AI-dominated industries thanks to such initiatives.

Another governmental instrument to protect jobs from robots is taxation. By deterring businesses from employing additional robots, a levy like this, also referred to as a "robot tax," would help workers maintain their employment. As of this now, taxing robots appears to be both economically and technically challenging and unsupported. This approach, however, has the potential to impede economic output, technological advancement, and raising the standard of goods and services.

In general, several nations and academics are currently focused on the topic of robot taxation. It should be remembered that individual income taxes currently account for the majority of tax receipts worldwide. Individuals' primary source of revenue is labor. In order to avoid these taxes, several businesses have begun to favor robot workers. Therefore, the experts think that the robot tax should make up for the decrease in the income tax for individuals.

The following strategies can be used to address the issue if AI's effects on the labor market result in higher unemployment:

1. Education and training must be reorganized so that people acquire skills that cannot be replaced by automation or artificial intelligence. It is necessary to provide educational programs that emphasize "soft skills" like problem-solving, creativity, and interpersonal relationships.
2. Life-long learning: Resources for job shifts and educational opportunities must be made available, and employees must be motivated to form habits of ongoing learning and self-improvement.
3. Social security systems should be strengthened and expanded in order to guard against the potential for higher unemployment.
4. Economic diversification: Promoting economic expansion in a number of sectors can aid in expanding employment prospects both locally and nationally.
5. Taxing automation: Unemployment funds, which serve as a source of assistance for the unemployed, may receive taxes from highly automated businesses.
6. Creating new jobs: Both the public and commercial sectors can undertake initiatives targeted at generating employment in the new industries brought about by artificial intelligence.

Dangers of Using Robots to Choose Employees

AI is being used more and more in modern businesses to handle personnel management and human resources tasks. Additionally, several cutting-edge businesses employ AI in the hiring, interviewing, and candidate selection processes to avoid bias and discrimination [26]. However, there are hazards associated with using artificial intelligence, and it does not completely protect an employer from allegations of bias and discrimination. Some AI technologies exploit public databases, social media, and the Internet to obtain information about job candidates and workers that an employer is not allowed to legally request (religious, ethnic, political opinions, etc.). As a result, some human rights provisions are violated.

AI's Potential to Cause Digital Inequality

The growing digital divide across nations is one of the unfavorable effects of artificial intelligence's quick development and widespread use. Every nation has unique opportunities and traits, as well as varying degrees of growth and potential. As a result, each nation will have unique artificial intelligence implementation skills and plans. According to experts, developing nations can gain just 5–15% from the use of artificial intelligence, whereas affluent nations can gain 20–25% (relative to today) [17].

The benefits of the widespread use of artificial intelligence will inevitably be distributed unevenly at the micro level in businesses and organizations. By 2030, AI technology might treble their cash flow, which would probably result in increased hiring [27]. Businesses that are unable or unwilling to implement AI technologies at the same rate risk going bankrupt. In fact, businesses who don't adopt AI may see a sharp decline in cash flow as they lose market share and are under pressure to fire employees.

AI also poses a threat to the development and exacerbation of individual social inequalities. For instance, people use AI skills to raise their level of education and expertise, try to compete in the market, develop a successful job, solve home problems, and create chances for their own businesses. But not everyone can take advantage of these AI-generated chances. In other words, not everyone has access to these technologies. First and foremost, a reliable Internet connection and the required knowledge are required for this purpose. However, this isn't always possible due to people's socioeconomic circumstances, educational attainment, and local infrastructure. As a result, in the era of artificial intelligence, society must deal with the next wave of digital inequality as well as a new type of social inequality. The government's social assistance programs must be put into action in order to eradicate or reduce this discrepancy. Public policies in this area must be updated, pertinent education and training programs must be strengthened, and artificial intelligence technology must be made more inclusive. Such actions are necessary to guarantee that everyone in society will profit from artificial intelligence in the future.

Problems with Human-Robot Cooperation

Concerns about the robots' cooperation with humans become increasingly pertinent as they advance and acquire the capacity to carry out tasks that were previously only performed by humans. It is anticipated that in today's evolving socio-technological civilization, people and robots will be able to work together to produce new goods, provide services, and become coworkers, necessitating new rules for behavior and communication. Collaborations between collective natural intelligence and collective artificial intelligence may lead to some unanticipated and unthinkable possibilities. They can communicate with one another, be helpful to one another, cause harm in certain situations, and pose threats. There are, of course, many futurological concepts in this context.

It should be mentioned that contemporary intelligent robots have sensors and algorithms that enable them to gather vast amounts of data, making it easier to identify patterns and inclinations.

Making educated judgments, streamlining procedures, and increasing overall productivity are all possible with this data. It is possible to program and configure robots to carry out particular activities. All of this guarantees that robots are more

effective than people at a variety of tasks. As a result, each company area's unique needs can be met and total productivity can be raised.

Conclusion

Benefits of Human-Robot Cooperation

Increased efficiency is one of the key benefits of human-robot cooperation. People can devote their time and attention to more difficult and innovative jobs since robots can complete things more quickly and correctly than humans. For instance, repetitive jobs in manufacturing and installations can be automated by robots, freeing up workers to concentrate on higher-level duties like problem-solving and quality assurance.

Safety is another benefit of human-robot cooperation. In hazardous settings like building sites or disaster situations, robots can be employed to lower the risk of human injury. Additionally, they can be trained to handle hazardous materials or carry out risky activities for humans, such as determining the level of water reservoirs.

Advanced teamwork can help people as well as robots. For instance, humans and robots can be designed to work together to complete tasks more effectively in a factory. This strategy may result in lower expenses and more production.

Risks Associated with Human-Robot Cooperation

Robots have the ability to automate some jobs, eliminating the need for some roles and increasing worker unemployment and financial stability. Additionally, they are able to gather and securely store vast amounts of data that could be misused or attacked by hackers. Strong security and confidentiality measures are needed to secure sensitive data and stop its exploitation. Certain standards and ethical guidelines are becoming more and more important as robots become more integrated into the job.

Ethical concerns are another difficulty with human-robot cooperation. Complex ethical conundrums arise, for instance, from the employment of robots in military operations, the privacy of personal information, and problems with robot ownership and control.

Human-robot coexistence has many benefits, but there are still technological barriers that need to be removed. For instance, tasks requiring human-like dexterity and judgment, including handling fragile things or making moral decisions, are still beyond the capabilities of robots. There won't be many opportunities for effective human-robot collaboration until these restrictions are removed.

Employers in the fields of labor protection and accident investigations have specific legal issues when using intelligent robots that may collaborate with people, such as drones, automatic floor cleaners, autonomous industrial carts, etc. Among them are:

1. Supplying a secure workplace in compliance with occupational safety laws;
2. Creation of appropriate safety system laws that are most frequently employed to lessen risks associated with robots and the features of robotic systems that create uncommon risks;
3. Examination of the reasons behind mishaps caused by robots ("black box" problem);
4. Deciding whether the maker or the user should be compensated for harm that robots do to workers.

The potential of generative AI technologies makes it easy to produce phony text, audio, video, and photo content. DeepFake refers to technologies developed for creating such phony content.

There are serious ethical and legal issues with the future development of DeepFake and related technologies. The speed, cost, and scope of use of these technologies are important considerations. These frauds have the potential to harm people's reputations, tamper with evidence in court, influence consumer behavior, and interfere with elections.

According to Vera Jourova, vice president of the European Commission, sophisticated technologies like ChatGPT can provide intricate, graphically supported material and visual pictures in a matter of seconds. She claims that speech-generating software can mimic a human voice based on a brief sample, and photo generators may produce realistic-looking images of events that never occurred.

As DeepFake technology advances, so does its application in illicit activity. Experts claim that DeepFake poses a significant threat to statehood, public order, and national security. In 2022, for instance, a fictitious video appeal on behalf of Ukrainian President V. Zelensky was uploaded online [38]. The Ukrainian army was asked to surrender to Russian forces in the televised appeal. What would have occurred if the army had given up after falling for that phony video appeal?

One of the essential challenges that affect all of humanity is preventing AI technologies from producing fraudulent material and taking specific actions with regard to content that has already been produced. IT firms must first make investments in developing anti-DeepFake systems that can recognize DeepFake content. In order to differentiate between authentic and fraudulent material, government organizations, social media companies, and media management must fortify their verification processes. Lastly, the public needs to be kept up to date on the risks and restrictions associated with DeepFake. Preventing people from losing faith in images and videos is crucial. From the perspective of legal practice, this is just as dangerous as the bogus content. because, when used in court, visual materials play a significant role in the evidence base.

Google, Facebook, YouTube, and other internet companies have already been mandated by the European Union to identify and publicly label AI-generated images, videos, and text for consumers [39]. This is a component of the European Commission's disinformation campaign.

Some nations are working to address the problem of false content production through law. These films are labeled in China. Pre-election distribution of bogus political content is forbidden in certain US jurisdictions, such as California. In France, it is illegal to alter someone else's voice or photos without that person's consent.

The issue of fraudulent content can be solved and trust in the digital world preserved by combining the aforementioned strategies.

Dangers of Using AI in the Military

The use of pertinent technologies in the military is one of the biggest concerns and threats associated with artificial intelligence. Thus, it is necessary to establish the proper guidelines for the use of AI in the military.

For pragmatic and moral reasons, the best and most appropriate method to address the potential repercussions of military robots with artificial intelligence is not to outright forbid its usage. Many facets of social life could be altered by the robotics revolution, and current military advancements would not be possible without artificial intelligence. Artificial intelligence hence offers significant advantages in terms of dependable manpower protection, precise target identification, avoiding needless losses and destruction, lowering defense expenditures, etc. A total ban on such military technologies is challenging because several countries have already made significant investments in the development of battle robots and robotic weapons.

To put it simply, automated military networks and robotized weaponry must be built in a way that prevents them from being unpredictable or out of control. Because of this, the creation of a standard is essential for combat robots and the

growing global robotics industry as a whole. Adopting a unique international convention covering state obligations pertaining to the ethical, legal, and security elements of AI use has become essential at the same time.

Dangers Associated with AI Use in the Healthcare System

AI is currently effectively performing a variety of functions in the healthcare industry. It makes it simple to compare recent and earlier medical research, automatically identifies pathologies, speeds up the diagnosis process, assesses and manages patients' conditions, recommends customized treatment, helps choose medications, and optimizes clinical trials.

The role of assisting humans is fully fulfilled by AI. For instance, a gadget called Activity Compass is designed to maximize a patient's spatial orientation when they have lost all memory. Many current systems, as well as the testing and development of numerous pertinent systems, are the result of automation of certain procedures.

However, when compared to conventional healthcare, there are several issues with AI-based medicine. Robotic surgery has a 23% market share in general surgical applications in 2022. Forecasts indicate that general surgery will account for 87% of the surgical robot industry by 2030. Simultaneously, there are several facts of surgical robot malfunctions and flaws.

In general, issues pertaining to the use of AI in medicine can be categorized as follows:
the likelihood that the data used to train artificial intelligence contains low-quality data;

1. Danger of incorrect diagnosis due to inadequate input data;
2. More costs when compared to conventional instruments;
3. Complexity of creating AI models and processes;
4. Issues with secrecy and cybersecurity;
5. Dangers of criminal organizations using AI through hacking for nefarious purposes;
6. Dangers associated with personal data misuse.

The bulk of issues and risks associated with the application of AI in various activity domains are caused by a lack of pertinent legal foundation, according to conducted studies and assessments. These legal issues include liability for unfavorable circumstances brought about by the use of AI, the legal standing of different intellectual products and objects made with AI, the processing of personal data by AI, and the fight against fake content. For the legal and public administration systems, artificial intelligence is a brand-new, unheard-of field. As a result, the use of conventional management and regulatory techniques in this field is ineffective. Considering all of this, it is essential to accurately evaluate the new legal realities brought about by artificial intelligence in order to design suitable management and regulatory processes.

There are other significant issues with AI that have economic roots. The development of the state, economy, and social security are unquestionably significantly impacted by the successful use of AI technologies in various domains. However, from the perspective of the labor market and population's employment, AI raises serious concerns. There are growing risks that people's financial disparity will widen and social inequality will worsen. Mass unemployment, the general accessibility of AI-based digital technology, and growing monopolies can all contribute to these detrimental processes. Simultaneously, the emergence of robots as the primary labor force and the rise in unemployment may pose a significant threat to state budgets and taxes. Therefore, nations and the global community at large should reevaluate employment policies, concerns about technological monopolies, and taxation notions in the age of artificial intelligence.

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