ARTIFICIAL INTELLIGENCE AND FUTURE OF HUMANS

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ABSTRACT—Human agency: Individuals are experiencing a loss of control over their lives. Code-driven, "black box" gadgets are automatically entrusted with important parts of digital existence. People lack input and are unaware of the context in which the tools operate. They trade independence, privacy, and authority in exchange for the freedom to choose; they have no influence over these processes. As automated systems become more common and complex, this effect will intensify. Data use and surveillance in complex systems is designed for profit or for exercising power. The majority of AI technologies are and will be in the hands of profit-driven businesses or power-hungry governments. Values and ethics are frequently absent from computerised systems that make decisions for people. These systems are globally interconnected and difficult to manage or control.

The AI takeover of jobs will widen economic divides, leading to social disturbance
Code-based machine intelligence will continue to disrupt all sectors of human work due to its efficiency and other economic benefits. While some anticipate fresh job creation, others fear enormous employment losses, expanding economic disparities, and societal disturbances, including populist revolutions.

Alter economic and political systems to better help humans 'race with the robots 'Reorganize the economic and political systems in order to expand the economy. Capacity and skills of
people in order to improve human/AI interaction collaboration and the rejection of tendencies that would threaten human relevance despite the availability of pre-programmed intelligence.
Autonomous weapons, cybercrime and weaponized information
Some believe that the fast expansion of autonomous military applications, as well as the use of weaponized information, lies, and propaganda to dangerously destabilise human groupings, will further erode existing socio-political systems and result in significant human casualties. Some people are also concerned about cybercriminals' ability to gain access to financial systems.

Keywords⸺privacy, safety, cybercrime, autonomous military, code-driven

I.INTRODUCTION

Experts predict that the growth of artificial intelligence will benefit most people over the next decade, but many are concerned about how AI advances will impact what it means to be human and productive.as well as the ability to choose human capacities are being enhanced by digital life, while centuries-old human activities are being disrupted. Code-driven In ambient information and communication systems, systems have reached more than half of the world's population.

Connectivity creates previously unseen opportunities as well as previously unseen risks. Will individuals be better off if emergent algorithm-driven artificial intelligence (AI) spreads? compared to how things are now there are 979 technological pioneers, innovators, developers, business and policy leaders, and researchers in this group. In the summer of 2018, experts were polled, and activists responded to this question.

Experts predict that networked artificial intelligence will boost human effectiveness while weakening human autonomy, agency, and capabilities. They talked about how computers could match or even surpass human intelligence and capacities in activities like complex decision-making, reasoning and learning, advanced analytics and pattern recognition, visual acuity, speech recognition, and language translation. They claim that "smart" systems in communities, vehicles, buildings and utilities, farms, and business operations will save time, money, and lives while also allowing individuals to enjoy a more personalised future.

Various of the optimistic statements centred on health care and the many potential applications of AI in diagnosing and treating illnesses, as well as assisting elderly citizens in living fuller and better lives. They had been AI's role in contributing to large-scale public-health efforts is also something that excites me.

Vast amounts of data about everything from personal to professional life that could be recorded in the next years from genetics to food. A number of these experts also anticipated that AI will help to support long-awaited reforms in official and informal education systems.

Nonetheless, most experts, whether optimistic or pessimistic, raised worries about the long-term influence of these new technologies on core human qualities. In this non-scientific survey, all respondents were asked to describe why they felt AI will make humanity better off or not. Many people raised significant worries and gave recommendations about how to solve them.
The accompanying table outlines the important issues they heard concerning hazards and remedies.

Artificial Intelligence (AI) is one of the fastest-growing sectors today. It offers several benefits and uses in a variety of sectors. Netflix, Amazon Prime, YouTube, and a slew of other high-profile corporations have AI features built into their apps.
What is artificial intelligence (AI)? Artificial Intelligence (AI) is a term that refers to the use of computers to make decisions.
Although the term is not new, the technology is significantly more advanced. AI may be described as the creation of intelligent machines capable of doing tasks that are similar to or superior to those performed by humans. As a result, machines require some level of human intellect.

Based on its classifications, AI is classified into three types:
1. Artificial Narrow Intelligence / Weak / Narrow Intelligence (ANI).
2. General Intelligence that is both strong and artificial (AGI).
3. A.I. (Artificial Intelligence).

Artificial Narrow Intelligence is where we are right now. If AI progresses to AGI (Artificial Super Intelligence), it will transform human existence as we know it.
Artificial intelligence (AI) is an area of computer science that includes Machine Learning (ML) and Deep Learning (DL).

II. LITERATURE SURVEY

John McCarthy, the father of Artificial Intelligence, defines AI as the science and engineering of producing intelligent machines, especially clever computer programs. Artificial Intelligence (AI) refers to machine intelligence. The field of artificial intelligence (AI) in computer science is defined as the study of intelligent agents. When a computer replicates functions, that humans identify with other human brains, such as learning and problem solving, the term AI is employed.

In recent years, a substantial quantity of software that incorporates artificial intelligence aspects has been available. Machine learning, natural language processing, image processing, and data mining are just a few of the AI subfields that have become hot topics among today's digital behemoths. Machine Learning is employed in Google's predictive search bar, Gmail's spam filter, and Netflix's programs recommendations. Apple's Siri and Google's voice both use Natural Language Processing. Facebook's face recognition tagging software and Google's self-driving cars both require image processing. Because of the massive volumes of data generated every day, data mining has become a slang term for the software business. Companies like Facebook and Google acquire massive quantities of data from their consumers every second and require a means to understand it. In today's technology-driven world, Artificial Intelligence has already shown to be a beneficial new tool.

Complications

When attempting to build an intelligent system, there are several challenges. A lot of ancient or primitive AI is just a set of conditions for what kind of reaction to have in response to predicted stimuli. However, this isn't intelligence, as emulating actual intelligence needs a thorough knowledge of how the input influences the output, as well as a big multidisciplinary effort including most AI subfields, as well as psychology and linguistics. Because of the intricacy of human interaction, there are several challenges with Human Machine interaction. Many aspects of human communication are not codified facts that a machine might simply repeat. There are hundreds of subtle ways in which humans engage with one another, all of which have an impact on communication. Voices, body language, and responses to numerous stimuli, as well as emotions, pop culture information, and slang, all have an impact on how two people interact. This is difficult to model in a machine that lacks a fundamental common-sense model that can learn and draw conclusions.

Safety

The ultimate objective is to maintain Artificial Intelligence's concussion in favour of society, which in turn prompts study in a variety of fields like as control and security, validation, and verification, and even law and economics.

Let's say your system is hacked or crashes, it will be a major issue. Now, when it comes to AI systems, it's critical that the intelligent system accomplishes exactly what we've requested it to do, especially when it comes to systems that are vehicles, such as automobiles, planes, or electricity grids, or automated trading systems, or even pacemakers. One of the major short-term challenges in order to maintain the safety is to take precaution from an Arms Race in Lethal Autonomous Weapons.

Preventing an Arms Race in Lethal Autonomous Weapons is one of the biggest short-term issues in order to ensure safety.
When we contemplate the long-term implications, however, a fundamental concern arises: what would happen if we succeed in our pursuit of powerful Artificial Intelligence and an AI becomes more complex than humans could possibly be?

I.J. Good pointed out in 1965 that creating a smart intelligent system is a difficult endeavour in and of itself. The development of such technologies might trigger an intelligence explosion, leaving human intellect far behind.

By creating super intelligent systems based on cutting-edge technology, we may be able to eradicate poverty, sickness, and even war. However, unless and until we learn to connect our aims with those of Artificial Intelligence, the construction of such a powerful AI system may be the last.

We can't foresee how an AI will act given that we know it has the power to become more intelligent than any human ever Because of the potential to outwit us voluntarily or unwillingly, we won't be able to leverage earlier technological achievements.
Future
Here are some of the ways AI will be useful to humanity in the near future, as indicated below:
Transportation Automation: – We've already seen the beginnings of smart automobiles or self-driving cars, but for the time being, these vehicles require the presence of a human driver. Instead of these exciting continuous improvements, the technology isn't quite there yet, and it will take some time for the general public to embrace these smart vehicles for widespread usage. Since Google began testing a self-driving car in 2012, the US Transportation Department has established classifications of various levels of automation Cyborg Technology is a term used to describe a type of technology that is made up of two or more Being human has its own set of weaknesses, and one of the most significant disadvantages is our own body and brain. According to researcher Shimon Whiteson, in the near future, we will be able to enhance ourselves with computers in order to boost our inherent skills. Yoky Matsuka of Nest believes that in the not-too-distant future, an AI system will be developed that will be beneficial for those who have had limbs amputated, since the brain will be able to communicate with a robotic limb to give the patient more control. How to Get Dangerous Jobs: – Some of the most dangerous occupations, such as defusing a bomb, have already been taken over by robots. They are drones, not robots, and they are being utilised as the physical equivalent in bomb defusing, which requires a person to manage them rather than employing an AI system. Regardless of their classification, they have saved thousands of lives throughout the world by taking up these types of work. Other tasks are being reviewed for robot integration, such as welding, which is notorious for producing deafening noise, tremendous heat, and dangerous chemicals, and which may now be outsourced to robots.

III. LITERATURE REVIEW

Research on artificial intelligence in the last two decades has greatly improved performance of both manufacturing and service systems. Currently, there is a dire need for an article that presents a holistic literature survey of worldwide, theoretical frameworks and practical experiences in the field of artificial intelligence. This paper reports the state-of-the-art on artificial intelligence in an integrated, concise, and elegantly distilled manner to show the experiences in the field. In particular, this paper provides a broad review of recent developments within the field of artificial intelligence (AI) and its applications. The work is targeted at new entrants to the artificial intelligence field. It also reminds the experienced researchers about some of the issue they have known.

Application of AI in environmental pollution.It is interesting to note that AI has been widely used in many aspects of human lives. A good case is presented by Chan et al. (2003). The authors stated that AI could be applied to the reduction of environmental pollution, conservation and recycling since natural resources are significant social and environmental concerns. As valuable means for pollution control, they noted that minimisation and mitigation remain attractive approaches.

However, interactive, dynamic and uncertain features are associated with these processes, resulting in difficulties in their management and control. AI is considered as an effective approach for tackling these complexities. Their study examines the recent advancements of AI-based technologies for management and control of pollution minimisation and mitigation processes. In the area of environmental pollution, AI has been used for management and control of pollution minimisation and mitigation processes. The literature relevant to the area of application of AI to control and management of pollution minimisation and mitigation processes were investigated, especially, technologies of expert systems, Fuzzy logic, and neural networks, which emerge as the most frequency employed approaches for realizing process control, and are highlighted. The results not only provide an overview of the updated progress in the study field but also, more importantly, reveal perspectives of research for more effective environmental process control through the AI-aided measures. Several demanding areas for enhanced research efforts are discussed, including issues of data availability and reliability, methodology validity, and system complexity.

IV. PROPOSED SYSTEMS IN ARTIFICIAL INTELLIGENCE AND FUTURE HUMANS

Improvements to come: How humans and AI could co-evolve in the next ten years
What will the co-evolution of humans and technology look like in 2030? Participants in this survey predict the rate of change to vary from minor to significant. They predict that AI will continue to be used to improve efficiency in workplaces and other activities, and that it will eventually be integrated into most human endeavours. individualized medicine, policing, even warfare (where attacks will focus on disabling infrastructure and less in killing enemy combatants and civilians). AI will enable further individualization in other professions, such as education, which will be focused on the requirements and intellectual capacities of each pupil/student. There will, of course, be some drawbacks, such as increased unemployment in specific 'rote' occupations (e.g., transportation drivers, food service, robotics, and automation, and so on)."

This section opens with experts expressing largely favourable predictions for human and AI progress. It is followed by other portions in which they discuss the future of work, health care, and education, as well as the possibility for AI-human collaborations and quality of life in 2030. Many of the major experts lauded the benefits, which they predict to grow as AI technologies mature to do more for more people.

"AI will bring new chances and capabilities to improve the human experience," commented Matt Mason, a roboticist and former head of Carnegie Mellon University's Robotics Institute. While it is conceivable for a society to act irrationally and choose to exploit it, I see no reason to believe that this is the most likely consequence."

"Algorithmic machine learning will be our intelligence amplifier, exhaustively investigating data and designs in ways humans alone cannot," stated Tim Morgan, a responder who did not disclose any identifying information. When IBM's Deep Blue computer

defeated Garry Kasparov in 1997, the world was stunned. Later on, it was discovered that human and AI 'centaurs' could team up to defeat anybody, human or AI.

"Human-AI contact will be multimodal: we will directly communicate with AIs, for example," noted Ashok Goel, head of Georgia Tech's Ph.D. programme in human-cantered computing. However, AI will have a significant influence on human-human contact in both space (we will be networked with others) and time (we will have access to all our previously acquired knowledge). Individual and collective human intellect will be aided, enhanced, and amplified in new and powerful ways."

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V. IMPLEMENTATION

Concerns

Individual agency: Individuals are losing control over their lives as crucial areas of digital life are automatically delegated to code-driven, "black box" programmes. People lack input and are unaware of the context in which the tools operate. They trade independence, privacy, and authority in exchange for the freedom to choose; they have no influence over these processes. As automated systems become more common and complex, this effect will intensify.

Data abuse__ In complex systems, data is used and monitored for profit or to exercise authority.

The majority of AI technologies are and will be in the hands of profit-driven businesses or power-hungry governments. Values and ethics are frequently absent from computerised systems that make choices for individuals. These systems are globally interconnected and difficult to manage or control.

Job loss__ As AI takes over more employment, economic disparities will expand, causing societal turmoil.

Code-based machine intelligence will continue to disrupt all sectors of human employment due to its efficiency and other economic benefits. While some anticipate new work opportunities, others fear enormous job losses, expanding economic disparities, and societal upheavals, including populist revolutions.

Individuals' cognitive, social, and survival abilities are reduced as a result of dependency lock-in.

Many individuals believe that artificial intelligence will enhance human capabilities, while others believe that people's growing reliance on machine-driven networks will diminish their ability to think for themselves, act independently of automated systems, and communicate successfully with others.

VI. SUGGESTED SOLUTIONS

Improve human collaboration across boundaries and stakeholder groups is the most important global good.

The goal of digital collaboration is to serve humanity's best interests. People from all over the globe must find ways to come to common understandings and agreements - to join forces to assist the development of generally recognised solutions to wicked issues and the control of complex human-digital networks.

System based on values__ Develop policies to ensure that AI is aimed towards 'humanness' and the greater benefit. Adopt a "moon-shot attitude" to create inclusive, decentralised intelligent digital networks "imbued with empathy" that assist people in ensuring that technology complies with social and ethical obligations. There will be a need for a new level of regulation and certification process.

Prioritize people__ Change the economic and political structures to make it easier for humans to compete with robots.

Reorganize economic and political structures with the purpose of increasing human capacity and capability in order to improve human-AI collaboration and halt tendencies that would jeopardise human relevance in the face of artificial intelligence.

VII. RESULTS, DISCUSSIONS AND CONCLUSIONS

Artificial intelligence (AI) is eliciting equal amounts of anxiety and excitement. Advances in AI have been compared to "summoning the devil," and there are fears that AI will annihilate humans. People are afraid about AI, maybe because of the science fiction idea that robots would take over human employment, 'wake up,' and do unforeseen things. Others, on the other hand, see opportunity where others perceive peril!

The growing trend in AI system capabilities is anticipated to continue; these systems will eventually be capable of tackling a wide range of tasks (rather than needing to build a new system for each new challenge), and AI adoption in many industries will continue. AI is now unable to replicate human behaviour or surpass human reasoning, thus it will most likely remain a complementing labour tool for a long time. However, persistent progress in AI might lead to a point where it outperforms present predictions. The advancement of AI will be contingent on moral public opinion on its advantages and acceptability, companies continuing to gain a competitive edge from its use, and sustained financing for AI research and development.

Historically, automating a process has made it faster and less expensive, leading to a rise in the need for humans to do activities that cannot be mechanized Furthermore, rather than completely eliminating occupations, technology has altered the nature of some tasks, as well as the abilities necessary to do them. As roles and responsibilities change in the workplace, information must be updated, and skills must adapt. Collaboration, adaptability, and resilience will become more important 'soft' talents. The challenge will be to improve our talents at the same rate as technical improvements. As a result, we may need to consider the potential health and safety dangers if technology evolves faster than the abilities necessary to operate with it.

People may become separated from the process in the future if they are overly reliant on technology. When things go wrong, they may lose sight of how things operate or fail to see how terrible things are. While an AI system can provide facts and recommendations, it is up to people to decide what action to take. However, if individuals mindlessly obey computerised instructions without understanding how to challenge them, this might have serious consequences for occupational safety and health.

A greater percentage of employees will be 'new' to their jobs and responsibilities. As a result, continual employee training and retraining will become more critical in the future. In a world when the advantages and hazards of technology are 'incalculable,' how people choose to utilise it will determine whether it is good or evil.

To take use of machine learning's capability and benefits, we must first identify what we want computers to 'learn' and/or do, as well as what questions we want them to answer. Controls and objectives for AI must clearly be established, and much more empirical study is required to acquire a better grasp of how goal systems (in AI) should be developed and what values the machines should have. Once this is completed, it will be possible to determine what should be included in a regulatory framework, as well as if existing regulatory frameworks are enough.

So, is AI a threat or an opportunity? Will automation eliminate all employment, or will they generate more than they eliminate? Opinions are varied on this, and the reality is likely to fall somewhere in the middle. Workers will be required to participate in life-long learning, enhance their skills, and change employment more frequently than in the past as AI continues to transform the world of work.

The task for us in the HSE's Foresight Centre in the future, as humans increasingly collaborate with AI, is to guarantee that we predict any negative health and safety repercussions, Analyze the dangers and share your findings to improve the future working environment.

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