Journal of Artificial Intelligence, Machine Learning and Data Science

Research Article

Critical Evaluation of the Future Role of Artificial Intelligence in Business and Society

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A B S T R A C T

In contemporary economies, artificial intelligence (AI) and machine learning (ML) algorithms are frequently utilised in generating judgments that have far-reaching consequences for employment, education, access to finance, and a variety of other fields. The increasing level of advancements in artificial intelligence (AI) has substantially affected the functionality of societies and economies, prompting extensive debate over the merits and demerits of AI on the society and humanity at large. Moreso, the emergence of Generative Artificial Intelligence technologies like the ChatGPT (by Microsoft) and Bard (by Google) has ushered in an era of immense transformance to business operations, communication, and research, inflicting some unprecedented challenges, from the usage by humans. In view of this ensuing rapid transformations, this research critically explored the benefits and demerits of artificial intelligence, from the viewpoint of its impact on people, businesses, economies, and the society, from an ethical, legal and governance perspectives. While it is imperative that public welfare is religiously promoted and guarded, it is equally necessary to consider the interest and success of AI developer and their organisations. Therefore, it is essential to maintain an optimum balance between ethical principles. Our findings shows that experts are proposing an era of AI ethics that focuses on utilitarianism, which presents a balance between risks and benefits, and a movement from fundamental duty of care to civil responsibility for public good. National and continental associations have reacted promptly by establishing various regulations for the conduct of AI implementation in their jurisdictions. The General Data Protection Regulation (GDPR) permits individuals to provide general consent in relation to their information. The continuous investment and research focus on further development of artificial intelligence, shows that the future of individual lives, businesses and economies will continuously be influenced by numerous everyday artificial intelligence functions.

Keywords: Machine Learning, AI, Artificial Intelligence, Responsible AI, Explainability, Asilomar, Ethics, ChatGPT, Bard, Large Language Model, Generative Artificial Intelligence.

Introduction

Our world today seems like a wonderland or scenes from sci-fi movies, and one which would have been unimaginable 25 years ago. This evidences the technological progress, stride and development achieved, particularly with artificial intelligence. Advancements in computing and information technology, together with the enormous surge in the volume of available data has substantially increased the potential application of digital solutions (like artificial intelligence) to common domestic and industrial challenges. Consequently, artificial intelligence has attracted lots of interests in recent years (Provost & Fawcett, 2013), with its rapid and significant impacts and benefits on human life, organisations, economies and businesses (Von Krogh, 2018).

Artificial intelligence is described as "a system's capacity to accurately read external input, learn from it, and use what it has learned to achieve specified objectives and tasks through flexible adaptation" (Haenlein & Kaplan, 2019). Computational systems are getting more independent, and they are rapidly replacing present capacity. While artificial intelligence (AI) and machine

learning (ML) are before now commonplace in our day-to-day lives, they are now found in both the public and private sectors (law enforcement, health care, immigration, and education, to name a few). Businesses are rushing to automate workplaces with cutting-edge technology such as self-driving cars, autonomous freight trucks, artificially intelligent hedge funds, self-approving mortgages, robotics, legal, autonomous killing devices and the most recent Generative Artificial Intelligence technologies (ChatGPT and Bard) (Pavlik, 2023; Hooker & Kim, 2019; Zarifhonarvar, 2023; Rahaman *et al.*, 2023).

In contemporary economies, artificial intelligence (AI) and machine learning (ML) algorithms are frequently utilised in generating judgments that have far-reaching consequences for employment, education, access to finance, and a variety of other fields (Fu et al., 2020). Additionally, AI is fast progressing from the experimental stage to the implementation stage in a wide range of sectors (Tang et al., 2018), while progressively evolving as a general-purpose technology with the potential to have far-reaching effects across a numerous industry, triggering disruptive changes in value chains and business models (Delponte & Tamburrini, 2018). This increasing level of advancements in artificial intelligence (AI) has substantially affected the functionality of societies and economies (Von Braun *et al.*, 2021), prompting extensive debate over the merits and demerits of AI on the society and humanity at large. Therefore, this research aims to critically explore the benefits and demerits of artificial intelligence, in view of its impact on people, businesses, economies and the society, from an ethical, legal and governance point of view.

Evolution of Artificial Intelligence

According to (Hall & Pesenti, 2017; Kok *et al.*, 2009; Eling *et al.*, 2021) AI is the digital technology that allows machines to perform very intricate tasks effectively. Similarly, (Brendel *et al.*, 2021; Rai *et al.,* 2019) described AI as the ability of a machine to execute cognitive tasks that are generally related with the human minds. These activities include, but are not limited to perceiving, reasoning, learning, interacting with the environment, problem solving, decision-making, and even demonstrating creativity. In achieving these, the process of applying artificial intelligence involves the use of computing expertise and resources, and incorporating advanced algorithms that learns with every data record for improved predictions (Eling *et al.,* 2021).

According to (Eling *et al.,* 2021; Haenlein & Kaplan, 2019) there are three types of artificial intelligence, classified base on the evolutional stages of their developments and growth in the technology. Detailed description of the different type of intelligence is presented in table 1 below:

Table 1: Classification of AI Development (Eling et al., 2021).

Artificial Narrow Intelligence (Weak)	Artificial General Intelligence (Strong AI)	Artificial Super Intelligence (Conscious/Self-aware AI)
Application of AI to specific areas only	Application of AI to several areas	Application of AI to any area
Inability to autonomously solve problems in other areas	Ability to autonomously solve problems in other areas	Ability to solve problems in other areas instantaneously
Outperformance of humans in a specific area	Outperformance of human in several areas	Outperformance of humans in all areas

As shown above, artificial narrow intelligence performs a simple and specific function, operating within a constrained

context and a predefined scope. On the other hand, artificial general intelligence operates on broader problem areas and with the tendency to evaluate its surroundings and provide emotionally guided reactions like humans. Furthermore, Artificial super intelligence systems, demonstrates the ability to surpass human performances across a variety of disciplines. Currently, the application of AI is still at the narrow stage as it can only performs specifically defined functions (Haenlein & Kaplan, 2019; Eling *et al.,* 2021; Kaplan & Haenlein, 2019; Noguerol *et al.*, 2019).

At the dawn of AI, a wide variety methods and applications were being developed in various industries, with varying application. While the foremost developments in artificial intelligence was recorded over 60 years ago with the development of the first 'thinking machines'(Eling *et al.,* 2021). Recent developments in the last ten years have led to substantial development in several disciplines, these includes speech recognition, image classification, language translation, object recognition and detection (Rawat & Wang, 2017; Krizhevsky, Sutskever *et al.,* 2017; Redmon & Farhadi, 2017). This trend gave rise to the industrial transformation, popularly termed as "The Fourth Industrial Revolution". This describes the contemporary global industrial transformation, which includes the application of various general-purpose technologies like intelligence, blockchain, genomics, and the internet of things (IoT), in a variety of fields. With this industrial transformation comes speedier technological disruption, in relation to prior industrial periods (Taddy, 2019).

Application of Artificial Intelligence

AI is already disrupting our personal lives and business procedures throughout financial services, law, medicine, accounting, tax, audit, architecture, consulting, customer service, manufacturing, farming and transport industries (Hall & Pesenti, 2017; Haenlein & Kaplan, 2019). The application of AI includes the use of data to improve business operations, efficiently use available resources and optimise service deliveries, by streamlining technical interaction with large datasets.

Our everyday lives involve the use of AI for various functions ranging from social media usage, digital marketing campaigns (Marketers may utilise AI to better forecast consumer requirements, desires, values in B2B and B2C situations, to the extent that data and its analysis can help businesses figure out what customers want and how they think and act), mobile phone usage, and medical activity trackers, as well as the deployment of information from user interactions continually to improve performance in face recognition, language interactions (Siri, Alexa, Cortana etc), and customer service. Popular technological companies like Facebook, Google, Amazon, Apple, Microsoft, Cisco, Samsung, and Huawei all deploy AI for the development of their core products.

Similarly, typical case in industries includes the use of AI for optimising storage and distribution network as well as delivery route planning and efficient use of warehouse capacities (Hall & Pesenti, 2017) in the logistic sector. On the other hand, the application in the finance and insurance industry includes evaluation of staff performances, sales prediction (Eling & Lehmann, 2018; Eling *et al.,* 2021; Cappiello, 2018; Simonson & Jain, 2014), personal product innovation through customer behaviour analysis (Eling et al., 2021; Simonson & Jain, 2014), fraud detection (Hall & Pesenti, 2017), text analysis and natural language processing for automated customer services,

customers' image and video analysis, as well as pattern and anomaly detection, for underwriting and claims purposes (Eling *et al.,* 2021). Additionally, the healthcare application of AI includes prediction of malign and benign tendency of sicknesses like cancer (example - inter-operative cancer detection), hepatitis, and the possible mortality, predicting and preventing severe episodes of illnesses, as well as the use of natural language processing (NLP) powered chatbots for telemedicine, workflow recognition (i.e. surgical control tower (SCT)), (Patil & Seshadri, 2014; Kaul *et al.,* 2020). Furthermore, players in the legal sector utilise NLP to classify court documents and legal records to reduce the inconvenience involved in searching large volume of data (Hall & Pesenti, 2017).

There is similar application in several other industries. However, word the limit of this research will not permit the discussion of AI application in other industries.

Impacts and Benefits of AI

The impact of AI can be measured in respect to its effect on individuals, industries, and economies. The benefits may vary by industries and sectors, making it complicated to generalise across economies. Generally, AI provides automated medium for customer and stakeholder engagements through the deployment of chatbots (Eling *et al.,* 2021). Additionally, AI assist organisations to automate business processes, for improved decision making, contract and product designs (Eling *et al.,* 2021; Davenport, 2018). This helps organisations to save costs, increased accuracy of administrative functions, and eliminating human error. Furthermore, organisations employ AI for personalised product design, using customer behaviours. North Face, a technical outerwear shop, uses augmented intelligence to support clients in finding gear and apparel that is appropriate for certain weather situations, according to the company. As a result of personalisation, these artificial intelligence-powered customer interaction technologies are helping businesses move beyond transactional operations and toward more customer-centric ones (Oosthuizen *et al.,* 2020).

AI has extensively impacted and led to financial growth in various industries and sectors. The numerous applications of AI to businesses have led to continued transformation of business operations to data centric and AI supported framework. Businesses now utilise AI to better forecast consumer requirements, desires, values in both situations, to the extent that data and its analysis can help businesses figure out what customers want and how they think and act. This can minimise margin-draining events like customer turnover or shopping cart relinquishment while simultaneously creating margin-enhancing outcomes such as improved client loyalty or favourable word of mouth (van Esch & Stewart Black, 2021). The market for AI based solutions is projected to grow to over £30bn by 2024 (Hall & Pesenti, 2017) and $6 trillion by 2025, at a 30% yearly compound increase rate (Chi et al., 2021). This is expected to boost several industry's productivity by about 30%, with generated savings of up to 25%, while contributing more than $2.95 trillion by 2026 (Chen *et al.,* 2016) and $15.7 trillion by 2030 (Hall & Pesenti, 2017) to the global economy.

Admittedly, artificial intelligence presents a potential solution to several intractable social, economic, and environmental challenges, with enormous implication and benefits above. However, according to (Von Braun *et al.,* 2021), the implications of AI to individuals and industries for equity, the poor and the marginalized, are unclear. There are growing concerns with respect to the risks of AI for peace, with ensuing enablement of new-found forms of warfare like cyber-attacks or autonomous weapons.

Limitations in the Application of Artificial Intelligence

Despite the extensive advancement in the application AI to our lives and industries, the full potential is still constrained by the lack of access to the adequate computing resources *(Eling et al.,* 2021). Currently, the most progressive use case of artificial intelligence is the deployment of advanced deep learning methods for image, video, and computer vision processing as in the case of self-driving cars. These processes at best, falls under the scope of artificial narrow (or weak) intelligence (Turner, 2018), which is one of the types or stages of artificial intelligence development (see **Table 1**).

It is rather ironic and an anomaly that AI, which exemplifies outstanding advancement in technology, is equally limited by technological growth. Meanwhile, to achieve general or super intelligence, dramatic improvement in current computing capacity and resources is required. Experts have regularly predicted the actualisation of general AI, at different intervals since the 1950s (Haenlein & Kaplan, 2019; Davenport, 2018). However, due to limitation in computing resources, this is yet to be established, and is predicted to still be decades away from reality (Eling *et al.,* 2021; Johnson, 2018), while others predict that it will never be realised (Fjelland, 2020). This still remains true, even in the face of the huge stride achieved with large language model like ChatGPT and Bard and the high level of interaction and responses, it remained limited in its ability to think, respond and empathise like humans.

In addition to the technological challenges relating to computing resources as stated above, artificial intelligence is characterised by operational challenges. AI depends exclusively on the quality of accessible data and the relevant analysis or argument can easily be skewed by data biases (Thesmar *et al.,* 2019; Ndoro *et al.,* 2020; Noguerol *et al.,* 2019). While AI in itself is typically objective and without prejudice, an AI based system can inherit (and possibly amplify) bias from the input data (Haenlein & Kaplan, 2019).

Challenges of AI Application

While the benefits and positive impacts of AI has been publicly celebrated with attention from researchers, the press and notable industry players, the potential challenges, harm and injury to people and businesses has equally not gone unnoticed. According to (Helveston, 2015; Boddington, 2017a), several governments and researchers have documented potential harm resulting from the continued deployment of AI in the public and private sectors. Similarly, various customer and privacy activists have highlighted sets of challenges that are associated with the commercial deployment of AI (Helveston, 2015; White, 2012). These challenges can be ethical, legal, and philosophical in nature and they include, technological unemployment, inadequate data protection, unlawful use of individuals' data and infringements of anti-discrimination laws.

Technological Unemployment

Increasing automation of business and manufacturing processes can result in technological unemployment (Markoff, 2011; Lee, 2021; Lee, 2018), that is people losing their means of livelihood to machines. Governments can regulate the limit of deployment of automation. Adequate government regulations can be instituted to put a check to this challenge. According

to (Markoff, 2011), an obvious solution is for organisations to be mandated to spend a proportion of money saved through process automation, towards training employees for roles that cannot be automated. The most obvious case of technological unemployment is the number of jobs displaced in content writing, journalism, digital content creation, medical publishing and in legal services (Perlman, 2022; Liebrenz *et al.*, 2023; Zarifhonarvar, 2023).

Unlawful Use of Data

According to Elon Musk, the biggest existential threat yet, to human survival is AI (in the hands of the wrong individuals) (Nabi, 2020). This was extensively exemplified in the actions of Cambridge Analytica, with their irresponsible use of publicly available Facebook data, to coarse and psychologically profile individuals, towards tilting voting outcomes, as narrated in the movie "The Great Hack" (Seadle, 2020). Additionally, during the 2018 Russian Presidential Election, an AI system (Alisa) was used to interfere with the election. Alisa was nominated to participate in the election, with many people unaware that it was an AI system and not human (Chi *et al.,* 2021).

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Clearly, as AI continue to develop toward general and super intelligence, one can only imagine the possible impact on human survival, perhaps the clips from popular sci-fi movies will eventually become realities.

Infringement of Anti-Discrimination Law

One of the major problem of data bias in the application of AI, is the issue of possible discrimination, emanating from the source data. Typical case is the well document issue of self-driving cars' ability to effectively detect, light skin tone than a darker (Wilson *et al.,* 2019), clearly inheriting bias from the kind of images used to train the algorithm. Similarly, as well as the ruling-support systems employed by American judicial system has the tendency to be racially biased, as the algorithm was developed based on the evaluation of past ruling (Haenlein & Kaplan, 2019).

The deployment of AI application for commercial intents increases the exposure of organisations to any prohibited form of discrimination. National and international regulations prohibit public organisations from any form of discrimination between individuals, on the account of their age, race, gender, nationality, religion, or sexual orientations (Helveston, 2015). These regulations do not only prohibit discrimination in any form, but also places sanctions on discriminating actions regardless of intent, if it unduly hinders members of a protected class (Helveston, 2015).

Therefore, organisation that acquires, process and store sensitive public data for artificial intelligence application, must ensure astute compliance with relevant regulations (particularly with the advent of data privacy and security laws), whilst also considering the moral and ethical implications of their activities. Since sensitive data is the bedrock of virtually all artificial intelligence functions, it is imperative that AI developer and deploying organisations ensure full and undiluted adherence to legal frameworks (e.g. GDPR) (Eling *et al.,* 2021).

Data Protection and Security

Generally, data protection is one of the biggest challenges faced by individuals and organisations, with respect to the application of AI to businesses and our daily lives. Foremost amongst the data security related challenges is the indiscriminate and uncontrolled disclosure and access to public/customer information by third parties. This can either be intentional disclosure of customer data by the trusted entity or lack of adequate protection or safeguarding measures, which leads to indiscriminate access to third parties (Helveston, 2015), that may use the information for derogatory, malicious and exploitational purposes.

Several instances of unintended disclosures of customer data have made the headline and formed basis of notable research recently. A popular example is the case of a retail firm, Target Corporation (as narrated by (Hill, 2012; Patil & Seshadri, 2014; Marwick, 2014)), where acquired customer information was used for development of customised product recommendation and individualised marketing materials. Target inadvertently sent baby coupons to a pregnant teenager, disclosing her health information (her well-guarded pregnancy secret) to the knowledge of her parents (a third party). See sections 6.2 and 6.3 on legal and regulatory approaches to solving these problems.

The Role of Ethics, Law, and Governance in Artificial Intelligence

Artificial Intelligence and Ethics

The increasing use of AI technology and its impact on individuals and business has led to organically influenced calls (arising from the exposure of entities impacted by the AI based decisions and activities) for the incorporation of ethical principles in AI applications. This susceptibility of decision relating to wrongs imposed by AI systems has been aggravated by the inherent transparency gap arising from the use of such systems. Obviously, there is a fundamental duty of care, for users of the technology, to its operation processes, its benefits, and risks.

Ethical Theories

The normative expectations of organizations dictate that laws are critical, but not entirely sufficient. Although, according to (Carroll, 2016) business ethics dictates that organisations incorporate those activities, norms, guidelines, and practices that are expected of them, particularly to their stakeholders, irrespective of the position of the law. However, coupled with the legal and regulatory obligations, the society also instils fair, objective and ethical responsibilities on associations, with respect to the conduct of their affairs (in relation to their stakeholders) (Freeman & Reed, 1983; Friedman, 2016). Although, normative ethics has a wide level of classification, this report will focus on the consequentialist (Utilitarianism and Egoism) and non-consequentialist (Deontology) theories.

The consequentialist theories addresses right and wrong in relation to the result of decisions, although in different ways,

(McCartney & Parent, 2018; Becker, 2020). This essentially say that the optimal course of action is the one that produces the best results. The Utilitarian theory on one hand, advocates the greatest happiness of all (McCartney & Parent, 2018; Becker, 2020), while the Egoist theory promotes a pragmatic position that sole approach to attaining success is through the pursuance of one's interest alone (Crane *et al.*, 2019). Similarly, The Non-consequentialist theories evaluates fairness and injustice solely on the moral intent of decisions, as against its outcome (McCartney & Parent, 2018)). In essence, deontology (also known as the Ethics of Duty) stipulates that the ethical authority of an individual's decisions, in relation to its effect on others, is exclusively that individual's responsibility (McCartney & Parent, 2018).

Ethical Issues with AI

In view of the above, the damage from data privacy breaches can be consequential (egoist or utilitarian), where individuals or corporations suffer from discrimination or embarrassment. Similarly, damages can be deontological, where duty privacy breach is still termed to have violated duty of care, even if no damage is suffered (Group, 2019). Current ethical position in the use of AI is generally egoist, as organisations have placed their own interest above the common good. There are well documented cases of individuals suffering data breach with little or no legal consequence to the erring party, as it was in the case of Facebook, as documented in the movie "The Great Hack". While the legal position outcome was obviously unencouraging, the movie displayed the organically driven calls (from the public) for ethical considerations in data analytics and AI.

However, while it is imperative that public welfare is religiously promoted and guarded, it is equally necessary to consider the interest and success of AI developer and their organisations. Therefore, it is essential to maintain an optimum balance between ethical principles. Consequently, experts are proposing an era of AI ethics that focuses on utilitarianism, which presents a balance between risks and benefits, and a movement from fundamental duty of care to civil responsibility for public good, as shown in the image below. However, while it is imperative that public welfare is religiously promoted and guarded, it is equally necessary to consider the interest and success of AI developer and their organisations. Therefore, it is essential to maintain an optimum balance between ethical principles. Consequently, experts are proposing an era of AI ethics that focuses on utilitarianism, which presents a balance between risks and benefits, and a movement from fundamental duty of care to civil responsibility for public good, as shown in the image below (Group, 2019):

Ethical Theories as a Lens for AI Implementatio

Ethics, in general, aims to put down a principle on how the world should be understood, which leads to many divergent viewpoints, not only in terms of the answers they provide but also in terms of how questions are formed to comprehend the world and the ethical issues it provides.

As developed by Immanuel Kant in the 18th century, Deontology described ethics following moral laws. It means that the result of the AI system should not be of importance; instead, understanding the honest intention of building such a system should be queried. It is more like accessing one moral action and disregarding the unintended consequences. If Kante believes that we owe each other the duty of care which is imperative and

never to be abandoned regardless of the expected outcome, it could be said that deontology theories are equivalent to systems that are axiomatic in nature. Questions like how rules are applied to the AI decision system and the correct law will be challenging to answer or establish, except there is some form of governors in AI that could be some form of social norms to follow.
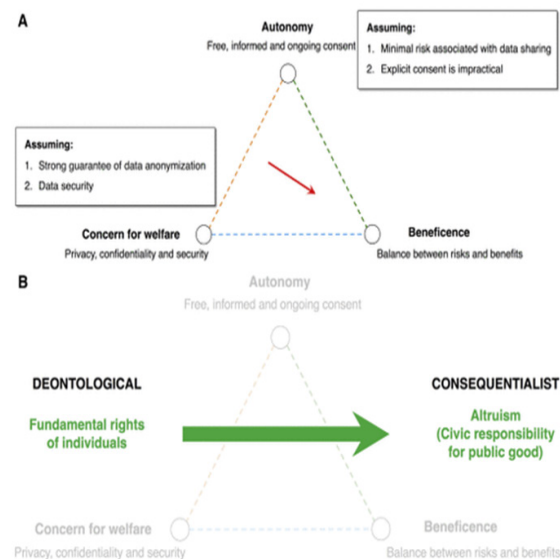

Figure 1: Future View of Ethical Position in AI (Group, 2019)

Utilitarian ethics, which is the same as consequentialist theory, consider the consequences of an act as important, which justifies an act to be moral or not. The purpose of Jermy Bentham (1974 -1832) developing utilitarian ethics is to maximize pleasure and minimize pain because everyone will prefer pleasure over pain (Quinn, 2015). Hinman (2013) suggested that Jermy Bentham probably meant happiness for pleasure and sadness for pain, and if it is former, then it is hedonistic. In summary consequentialist nature of utilitarianism focus on end, which must be factored before looking at the morality of the decision. Teleological ethics (virtual ethics) could argue that ethical decision is a function of the consequences that are the end result of the actions. Therefore, building a good ethical AI system will depend on the consequences of one action being good. It also factored in some situations where the action of one building an AI system may not be good, but the consequences turn out to be good; therefore, it becomes consequentialist moral reasoning (Quinn, 2015). It seems there is no best ethical theory to a guild in tackling the ethical challenges; however, through its lens, the assumption that the best solution to tackle ethical issues in business and society lies at the intercept of the theories is false. However, the deep perspective in theories can confront difficult choices in the future of AI.

Legal Issues with AI

The legal implication of AI to the society, is generally viewed on two fronts. On one hand, it is essential to explore the legal position on the apportionment of liability in respect of damages incurred using an AI system. On the other hand, it is essential to explore the legal position on data privacy and the allowance for control over one's personal and sensitive information.

As a lifeless and program-based system, AI devices or programs are not legally or morally answerable entities as they are merely seen as a device (Pesapane *et al.*, 2018), cannot display human focus on values of respect for individuals, interpersonal care, and equitable treatment to the forefront

(Lee, 2021; Lee, 2018). (Lee, 2021; Lee, 2018). Generally, it is remotely inconceivable for AII to be held liable for wrong activities as liability with this type of level 1 systems remains with the (Group, 2019). However, AI development towards general and super intelligence, bringing about high level of autonomy, can tilt liability the system and by extension, the manufacturer or regulatory body(Group, 2019). Meanwhile, irrespective of the eventual allocation of liability, AI should be deployed with appropriate risk mitigation measures in place, to reduce the effect of any unwanted occurrence.

Legally, an individual reserves the right to be free from imposition or interference by others (Group, 2019). This right includes maintaining control in respect of one's personal and highly sensitive information and the sole discretion on consent for others to access or use such information (Group, 2019). A breach of such rights refers to any loss of unpermitted access to, or disclosure of such information. The legal position on data privacy and security is discussed in the next section, in accordance with available data regulations.

Role of Governance in AI

Generally, there has been resounding concerns relating to technological unemployment, potential for its misuse and other AI challenges, particularly relating to its effect on nations and economies. The most notable demand for regulation has come from renowned major players in the technology industry. Elon Musk called for government regulation of AI, while stating that the biggest existential threat yet, to human survival is AI (in the hands of the wrong individuals) (Nabi, 2020). Similarly, Bill Gate, cautioned organisations and individuals to be wary of the possible implication of AI deployment (Mack, 2015), while (Zuckerberg, 2019) has called for new regulations and required that focus should be on harmful content, election integrity, privacy and data portability.

Many countries and continental associations have reacted promptly by establishing various regulations for the conduct of AI implementation in their jurisdictions. The General Data Protection Regulation (GDPR) permits individuals to provide general consent in relation to their information (Regulation, 2016). However, this is yet to be extended to institutional and national levels. Similarly, the Canadian Government has enacted a regulation for data privacy. While this differs from the GDPR, in that stipulates that consent is not required for secondary use of non-identifiable data (Group, 2019) (Group, 2019; Wynsberghe, 2020) (Group, 2019; Wynsberghe, 2020). However, both regulations converge with a uniform position, that consent is not required in the distribution of anonymised data (Group, 2019). Furthermore, the GDPR absorbs data restriction on public data, if required for "public interest" (Regulation, 2016). Furthermore, the GDPR absorbs data restriction on public data, if required for "public interest" (Wynsberghe, 2020). While there is variation in specific details of the regulation, a consistent point is the allocation of increasing responsibility on data custodians.

In order to present a uniform legal and ethical framework that cut across all jurisdictions and professions, several Civil society groups have made several proposals on principles and AI ethical frameworks, and this includes the historic Asimolar AI principles, proposed in 2017 by the by the Future of Life Institute (Floridi & Cowls, 2019; Garcia, 2020; Sarangi & Sharma, 2018; Boddington, 2017b). The Asilomar conference that brought together influential business and academic leaders to reach an agreement on AI research, ethics and values and longer time issues. Elon Musk, Ray Kurzweil, and others are among those who have signed the AI principle. The principle encompasses 13 areas of concern, including failure transparency, judicial transparency (including judicial corruption), responsibility, value alignment (including human values), personal privacy (including liberty and privacy), shared benefit (including shared prosperity), non-subversion, and the AI Arms Race. research, ethical and long-term issues.

Conclusion and Future Prospects of AI Application

Notable AI challenges, particularly related with data availability (to avoid bias) and sensitivity (ethics and privacy) has led to developments and research in actualisation the deployment of AI application with absolute anonymity and little or no privacy breach. This led to the deployment of generative adversarial networks (GANs) algorithm (still in development and evolution stage), to generate from little set of labelled data (Goodfellow *et al.*, 2014; Korshunov & Marcel, 2018). While this solve the problem of privacy, it will pose a new and unique challenge to our perception of AI, particularly as it can be used to generate non existing images or videos and poses a huge challenge with deepfakes. Additionally, as large language models (ChatGPT, Bard) bring about automation and improved content creation and research, it brings forth unwanted challenges to our educational system, as well as resulting in technological unemployment.

In view of the above and the initial sections of this research, it is obvious that the AI revolution is upon us and the way we live, do businesses, run economies and countries are already being transformed. Additionally, the continuous investment and research focus on further development of artificial intelligence, shows that the future of individual lives, businesses and economies will continuously be influenced by numerous everyday artificial intelligence functions. Typically, self-driving vehicles and healthcare with proactive, real-time and data-driven analysis of health status will emerge (Eling *et al.,* 2021).

Although, despite all these concerns, the enormous potential of artificial intelligence must not be ignored. Admittedly, as AI development approach general or super intelligence level, whilst there is the tendency or potential to transform the way we do things and run businesses, there will be increasing issues relating to hacking (particularly with the emergence of smart homes), which can cause a considerably level of losses and attacks to our personal safety and business operations. Additionally, more ethical, and legal issues are expected to arise (beyond what we are currently aware of), increasing safety challenges, losses, and possible liabilities. An example is what is already noted in the case of AI controlled Uber vehicle, involved in a collision with a pedestrian (Board, 2019). Therefore, the ethical concerns of key applications should be explored, and critical questions should be answered.

Future Implication of Artificial Intelligence

These various future applications of AI as stated above, the potential to cause significant ethical and legal issues if they trigger unexpected changes in the system's context integrity and relationship dynamics (Ho *et al.,* 2019). The following ethical concern was posed by (van Esch & Stewart Black, 2021):

1. Why is it so hard to distinguish between a breach of client privacy and a bad consumer response when AI-enabled

technology swiftly scans social media, IoT, and other digital profiles?

2. How will AI-enabled tools be trained to monitor themselves, or will humans be required to always supervise AI-enabled learning?

3. Will or should businesses be forced to declare their usage of AI in content generation and creation.

Therefore, continued question of data protection and security are being raised, this places a mandate on national and international institutions to develop guidelines for fair and responsible handling of data and AI applications. Evidently, based on our discussion on limitations and challenges (more importantly), the need to regulate organisations that develop and utilise AI for their business operations, is ever so essential. Such AI ethical and governance framework should be developed in accordance with the Asilomar principles, to include regulations which mandates AI solutions to be implemented for common good of humanity, to teat user fairly and justly while encouraging safe usage. Additionally, it should promote reliable, secure AI solution, which mitigate or eliminate bias while incorporating privacy and confidentiality, explainability and upholding human value.

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