



universität
wien

MASTER THESIS

Titel der Master Thesis / Title of the Master's Thesis

„The impact of artificial intelligence on human rights
Which human rights are most likely to be impacted by the unregulated
advance of AI?“

verfasst von / submitted by

Mag. Dr. Michael Vallender, BA

angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of
Master of Laws (LL.M.)

Wien, 2023 / Vienna 2023

Studienkennzahl lt. Studienblatt /
Postgraduate programme code as it
appears on
the student record sheet:

UA 992 891

Universitätslehrgang lt. Studienblatt /
Postgraduate programme as it appears on
the student record sheet:

Human Rights (LL.M.)

Betreut von / Supervisor:

Univ.-Prof. Dr. Wolfgang Mazal

Danksagung

Rückblickend auf die letzten Monate gesehen, die für mich als eine Zeit einer großen Herausforderung in Erinnerung bleiben werden und die geprägt waren von Emotionen der Freude und der Motivation aber auch der Verzweiflung und des Durchhaltevermögens, möchte ich hiermit meinen persönlichen Dank an folgende Personen aussprechen:

Ein erster großer Dank geht an meinen Betreuer Univ.-Prof. Wolfgang Mazal, der mir durch seine Einheiten im Rahmen des Masterlehrganges den Ansporn gab, diese Arbeit zu verfassen. Die ansprechenden Diskussionen und sein umfangreiches Wissen auf diesem Gebiet haben mein Interesse nicht nur als Student, sondern auch als politisch interessierter Dienstgeber geweckt. Wesentlich bleiben aber auch jene Freiheiten, welche mir bei der Verfassung dieser Arbeit immer geblieben sind.

Dank gebührt aber auch meinem guten Freund Neil in Kalifornien, der sich in dieser Zeit gerade mit dieser Thematik auseinandergesetzt und der mir durch persönliche Treffen die US-Sichtweise und zahlreiche Informationen, wie man sie nur vor Ort erfahren kann, vermittelt und mir im Zuge dessen auch relevante Literatur zugänglich gemacht hat.

Weiters möchte ich einen besonderen Dank meiner Familie aussprechen auf deren Unterstützung ich immer zählen konnte und die alles darangesetzt hat, mir dieses Studium durch ein harmonisches Umfeld zu ermöglichen. Nur durch ihre Geduld und Unterstützung wurde dies alles machbar.

Ein besonderer Dank gilt aber vor allem Marina, welche mir als unersetzlicher Bestandteil in meinem Leben und in vielen schwierigen Phasen immer die nötige Kraft gegeben und mir in dieser Zeit sowohl mit Verständnis, liebevollen Worten als auch mit der nötigen Versorgung beigestanden ist.

Das sind zwar nur wenige Zeilen, die dem großen Verdienst aller kaum gerecht werden, aber dennoch meine unendliche Dankbarkeit ausdrücken sollen.

Acknowledgements

Looking back on the last months, which will be remembered as a time of great challenge for me and which were marked by emotions of joy and motivation but also of despair and perseverance, I would like to express my personal thanks to the following persons:

A first big thank you goes to my supervisor Univ.-Prof. Wolfgang Mazal, who gave me the incentive to write this thesis through his units in the master course. The appealing discussions and his extensive knowledge in this field have aroused my interest not only as a student but also as a politically interested employer. Essential, however, remain those freedoms which have always remained with me in the writing of this thesis.

I would also like to thank my good friend Neil in California, who dealt with this topic during this time and who, through personal meetings, gave me the U.S. point of view and a lot of information that can only be experienced on site, and who also made relevant literature available to me.

Furthermore, I would like to express my special thanks to my family on whose support I could always count and who did everything to make this study possible for me through a harmonious environment. It was only through their patience and support that all this became feasible.

A special thanks goes to Marina who is an irreplaceable part of my life and who always gave me the necessary strength in many difficult phases and stood by me during this time with understanding, loving words as well as with the necessary care.

These are only a few lines, which hardly do justice to the great merit of all, but nevertheless should express my infinite gratitude.

Abstract

Artificial intelligence is increasingly used in almost all areas of life. Idea and desire go back to antiquity, in which systems for logic were already developed. Mathematics has also reflected this development over the centuries, although physicists and philosophers have also recognized possible limitations of free will in theory. Admittedly, at that time the term artificial intelligence was unknown and the development of the systems we describe today as artificial intelligence only began a few years ago. Essential for the existence of intelligence is the ability to learn which is however differently pronounced. If mathematical, statistical or computer science methods are used, only a weak AI is present. Applications refer to speech recognition and image recognition and are not able to understand problems and exchange knowledge from other areas. However, if these systems have logical and/or planning capabilities and are able to make decisions by exchanging knowledge from other domains, they are strong AI, which is useful, but the profound impact on society should not be overlooked. In any case, these effects have a significant impact on human rights. This paper makes an attempt to present the impact of the application of AI on labor relations from the perspective of human rights, since the latter significantly determine social, public as well as social life.

Keywords: Artificial Intelligence, Human Rights, Leadership, Employment, Regulation

Abstrakt

Künstliche Intelligenz wird in nahezu allen Lebensbereichen vermehrt eingesetzt. Idee und Wunsch gehen bis in die Antike zurück, in welcher schon Systeme zur Logik entwickelt wurden. Auch die Mathematik spiegelt im Laufe der Jahrhunderte diese Entwicklung wider, wobei aber auch schon in der Theorie Physiker und Philosophen mögliche Einschränkungen des freien Willens erkannt haben. Freilich war zum damaligen Zeitpunkt der Begriff künstlicher Intelligenz unbekannt und hat die Entwicklung der Systeme, die wir heute mit künstlicher Intelligenz beschreiben erst vor wenigen Jahren begonnen. Wesentlich für das Vorliegen von Intelligenz ist die Fähigkeit zu lernen, welche jedoch unterschiedlich ausgeprägt ist. Wenn mathematische, statistische oder Verfahren aus der Informatik zur Anwendung kommen liegt lediglich eine schwache KI¹ vor. Anwendungen beziehen sich auf Spracherkennung und Bilderkennung und sind nicht in der Lage Probleme zu verstehen und Erkenntnisse aus anderen Bereichen auszutauschen. Wenn jedoch diese Systeme logische und/oder planerische

¹ JAAI, Starke KI, schwache KI – Was kann künstliche Intelligenz? <https://jaai.de/starke-ki-schwache-ki-was-kann-kuenstliche-intelligenz-261/> (Stand 13. Juni 1019)

Fähigkeiten aufweisen und in der Lage sind auch Entscheidungen unter Austausch auch unter Einbeziehung von Erkenntnissen anderer Bereiche zu treffen, liegt eine starke KI vor, welche zwar nützlich ist, jedoch die tiefgreifenden Auswirkungen auf die Gesellschaft nicht übersehen werden dürfen². Diese Auswirkungen haben jedenfalls wesentlichen Einfluss auf die Menschenrechte. Die vorliegende Arbeit unternimmt den Versuch, die Auswirkungen der Anwendung KI auf Arbeitsverhältnisse unter dem Blickwinkel allenfalls betroffener Menschenrecht darzustellen, da letztere das soziale, öffentliche wie soziale Leben maßgeblich bestimmen.

Schlüsselwörter: künstliche Intelligenz, Menschenrechte, Führung, Beschäftigung, Regulierung

² Bostrom Nick (2014), Superintelligence: Paths, Dangers, Strategies

Abbreviations

ABA	American Bar Association
ACLU	American Civil Liberties Union
AFST	Allegheny Family Screening Tool
AI	Artificial Intelligence
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
ChatGPT	Chat Generative Pre-Training Transformer
CNN	Cable News Network
COVID 19	Corona Virus Disease 2019
CTA	Call to Action
DABUS	The Artificial Inventor Project (Dr. Stephen Thaler)
EU	European Union
ECFR	European Council on Foreign Relations
ECHR	European Convention on Human Rights
ECJ	European Court of Justice
ETSI	European Telecommunications Standards Institute
ETUI	European Trade Union Institute
FRA	EU Charter of Fundamental Rights
GDPR	General Data Protection
GPS	Global Positioning System
HBR	Harvard Business Review
HRC	Human Rights Commission
IAEA	International Atomic Energy Agency
ICERD	International Convention on the Elimination of all Forms of Racial Discrimination
IBM	International Business Machines Corporation
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICERD	International Convention on the Elimination of All Forms of Racial Discrimination
ICT	Information and Communication Technology
ILO	International Labor Organization
IPMV	Internet Protocol Video Market

IT	Information Technology
ITEP	Institute on Taxation and Economic Policy
JRC	Joint Research Centre
KI	Künstliche Intelligenz (Artificial Intelligence)
LA Times	Los Angeles Times
MIT	Massachusetts Institute of Technology
NY Times	New York Times
OECD	Organisation for Economic Co-operation and Development
OHCHR	Office of the United Nations High Commissioner for Human Rights
SAG-AFTRA	American Federation of Television and Radio Artist
SHRM	Society for Human Resource Management
UDHR	Universal Declaration of Human Rights
UN	United Nations
US	United States of America
USPTO	United States Patent and Trademark Office
VDPA	Vienna Declaration and Program of Action
WEF	World Economic Forum

Table of Contents

Danksagung.....	2
Acknowledgements.....	3
Abstract.....	4
Abstrakt.....	4
Abbreviations.....	6
1. Introduction.....	9
2. Artificial Intelligence.....	14
2.1 Definition.....	14
2.2 Legal Implications.....	15
2.3 Comparison between EU and United States.....	17
2.3.1 Regulation in the EU.....	19
2.3.2 Artificial Intelligence Act.....	21
2.3.3 Regulation in the United States.....	21
3. Affected Human Rights.....	23
3.1 The EU.....	23
3.2 The United States.....	30
4. Human Rights and Working Conditions in the EU.....	33
4.1 Recent Trends.....	34
4.2 The Role of Technology in Recent Trends.....	39
4.3 The Situation in Austria.....	40
5. Human Rights to Social Security.....	42
5.1 Impact due to lack of regulations.....	44
5.2. Impact because of a lack of transparency.....	46
5.3 The dignity of human beings.....	47
6. Developments in Working Processes.....	48
6.1 The use of algorithms.....	51
6.2 Algorithmic Bias and Discrimination.....	54
7. Necessary changes in (working) society.....	56
8. Impact on tax-system.....	62
8.1 Necessaries of changes to tax system.....	63
8.2 Proposals of changes.....	66
9. Conclusion.....	67
10. Bibliography.....	70

1. Introduction

The term *Artificial Intelligence* has been lingering in our vocabulary for over half a century ever since it was first coined by American computer scientist John McCarthy in 1956. However, in recent years, the term has become the center of many discussions and debates as technological advances continue to rapidly push the boundaries of science further and further. From search engines to virtual assistants, self-driving cars to ChatGPT, artificial intelligence, or AI, has now become part of our everyday lives, whether we like it or not. One of the primary concerns as far as industrial or technological expansion is concerned has always been the labor market and what jobs or job sectors are most at risk of having humans replaced by machines. It is, in this respect, a relatively new concept to discuss how our technological advances are impacting another aspect of our everyday lives, namely human rights.

At around the same time McCarthy was delivering lectures on the imminence of AI, nations were coming together in a post-war society to ratify treaties aimed at protecting human rights in every conceivable scenario. In 1948 the Universal Declaration of Human Rights (UDHR) set in motion a series of articles aimed at protecting the right to equality, freedom of belief and religion, right to social security, right to education, freedom from slavery and torture, and freedom of opinion and information among others. This was swiftly followed by the Genocide Convention (1948), Refugee Convention (1951), Discrimination in Employment Convention (1960), Racial Discrimination Convention (1966), Economic, Social and Cultural Rights Covenant (ICESCR) (1966), Civil and Political Rights Covenant (ICCPR) (1966), and Discrimination against Women Convention (CEDAW) (1979) to name a few. Yet as human rights protections in all these issues gathered pace and successive governments made steady progress, our own advances in technology and how it could and would impact human rights have fallen largely under the radar until recently. In retrospect, our ignoring such important issues can only be attributed to ignorance, dismissing science fiction as, well, science fiction; but as technological advances have steadily been turning science fiction into reality, there is a collective sentiment of “I told you so” emanating from the many books and films in popular culture over the last century which, in hindsight, now seem prophetic.

Progress has always been that which defines humanity. We have always strived for more: to develop, enhance, economize, and profit. It is, therefore, slightly ironic that the culmination of our technological advances could soon see our progress taken out of our hands; that is if we are to heed the warnings of programmers, IT experts and software developers around the world. Some may even find it amusing that the tech experts of today often refer to

the science fiction writers of the past, many of whom accurately predicted the predicament we now find ourselves faced with.

Although many would point to Mary Shelley's *Frankenstein* (1818) as being the forerunner of the artificial intelligence genre, arguably one of the first mentions of AI in popular culture was W. Grove's 1888 novel *The Wreck of the World* which is set fifty years in the future, 1948, where sentient machines are beginning to challenge human's control of the planet. In comparison, Shelley's tale of a sapient creature created in a laboratory serves as symbolism for many science fiction novels and films which were to follow; common themes being machines' ability to outthink humans, develop human feelings, and challenge their hegemony. Thirty years after W. Grove's *The Wreck of the World* was published, Russian writer Yevgeny Zamyatin published *We* in 1922. It was a book which kickstarted the theme of *dystopia* as a literary genre, introducing the concept of mass surveillance and totalitarianism in a uniform society, themes which Aldous Huxley would explore in his 1932 novel *Brave New World*, apparently a reaction to H.G Wells' utopian vision of the future, and George Orwell later rehashed in 1949 with the publication of *1984*.

With the emergence of the space race, writers and television producers alike found a huge market in the ever-increasing interest in futuristic themes and worlds beyond our own. One of the most referred to books and films of this genre must be Arthur C. Clarke's *2001: A Space Odyssey*, adapted for the big screen in the same year by Stanley Kubrick. The plot revolves around a crew's voyage through space while at the mercy of HAL, a sentient computer which, like Frankenstein's creation, is gradually seen as a threat. Machines which turn against their creators soon became the go-to plot line of many subsequent movies and books, notably Ridley Scott's *Blade Runner* (1982) and the *Terminator* franchise (1984 -). It is, perhaps, the latter which is most often used as a caveat in discussions over the safety of AI, possibly due to how many films have so far been released in the franchise, or due to how the development of AI software and the initial goals portrayed in the movies reflect the patterns we are now seeing today. Elon Musk recently referred to the Terminator franchise when announcing the launch of his own AI start up which will be "pro-humanity" as he said "the world needed to worry about the prospect of a "Terminator future" in order to avoid the most apocalyptic AI scenarios" (The Guardian).

Whatever the level of our obsession with the future and the apocalyptic scenarios that we imagine technology will bring, every step in the development of AI is bound to be compared to the plethora of novels and movies which have fueled our imaginations over the past century. We can, perhaps, be thankful of such books and movies for giving us our current cautious

optimism moving forward, reluctantly accepting that change is inevitable while at the same time evaluating which advances are useful for us, which are pointless and which are beyond our control as they seep into our lives. But it is also precisely this cautious optimism and *beauty of hindsight* which we must now use to focus the AI debate on human rights before we are left playing catch-up. This thesis will therefore address and seek to answer the research question of the impact of artificial intelligence on human rights and specifically:

Which human rights are most likely to be impacted by the unregulated advance of AI?

In order to answer the above research question, this paper will first seek to define what constitutes artificial intelligence (2.1) so that parameters can be established and analyzed in relation to legal implications (2.2) and the need for technology firms to adhere to new controls and regulations. This will logically lead to comparisons between the US and the EU (2.3) in terms of regulation in the EU (2.3.1), the Artificial Intelligence Act (2.3.2), and regulation in the United States (2.3.3). Subsequent chapters will explore affected human rights by referring to the ECHR (3.1), as well as fundamental rights in the EU (4.1) and Austria (4.2). Human Rights and Social Security will focus on the impact of a lack of regulations (5.1), a lack of transparency (5.2) and the dignity of human beings (5.3) before looking at working processes and how algorithms may be contributing to bias and discrimination (6.1, 6.2). Finally, this thesis will look at necessary changes in a working society (7) and the impact on tax systems (8) before its conclusion (9).

At the time of writing, it could be said that we are living in exciting yet unpredictable times. I feel it is important to mention “at the time of writing” because of the pace at which technology is changing. There was a time in the not-too-distant past where technological advances were introduced gradually, every four or five years or so. In recent years, advances are seemingly happening all at once. If you can imagine the recent Covid-19 pandemic had happened fifteen years prior in, say, 2005 – that is not a long time ago in most of our adult memories. However, we would have been without streaming networks such as Disney or Netflix; there would have been no online communication platforms such as Microsoft Teams or Zoom; nor would we have had online delivery apps for food and shopping, not to mention the currently indispensable Amazon or Amazon Prime. Facebook was still a year in the future and the first iPhone a year after that. In short, it is easy to forget how quickly things have changed in such a short period of time. In the last fifteen years our world has changed dramatically, and a lot of the progress

made has been exciting. Thanks to technology and AI, we are now able to process vast amounts of information in seconds, improve the accuracy of forecasting in all areas from logistics to medical diagnoses, be more efficient in our everyday work and finally begin to reduce our carbon emissions. We have been able to increase safety and security by mitigating risks, offer alternative and more inclusive methods of education, reduce the need for lengthy business trips or excessive commutes, and bring people together easily for a fraction of the cost of old. But, as previously mentioned, we need to be cautiously optimistic. We need to weigh up the benefits and the risks and ensure the changes we are implementing are not just benefitting one group at another's expense.

In an article published on the United Nations website in July 2023, UN High Commissioner for Human Rights, Volker Türk, called for the necessity for regulation, warning that we waited too long to act on climate change and cannot afford the same mistakes with AI. His article is a call to action, an urgent to-do list for the international community, warning that “AI technologies that cannot be operated in compliance with international human rights law must be banned or suspended until such adequate safeguards are in place” (Türk, 2023). His statement echoes that of his predecessor, Michelle Bachelet, who raised the same concerns in September 2021 following the Pegasus spyware revelations. In her article, also published on the United Nations website, Bachelet drew attention to how far behind we are falling in terms of regulating AI technologies:

One key obstacle in the path of addressing the risks of these technologies is the utter lack of transparency regarding how digital surveillance tools are developed, bought, sold, and used. How can we ensure effective oversight or control of intrusive technologies if so little information is shared about them? How can we push for responsible business practices when so little is known about the companies responsible for their development and sale, including to governments with poor human rights records? What sort of due diligence is being carried out by Governments adopting these tools and by the companies selling them? (Bachelet, 2021).

In 2022, the United States issued its own CTA through the White House website, publishing a “Blueprint for an AI Bill of Rights” which lists a series of situations you *should* be protected from or you *should* be entitled to. And while the statement does little to offer any concrete legislative measures or controls, it does at least acknowledge the growing and pressing need for regulation, concluding that “This framework applies to (1) automated systems that (2) have the potential to meaningfully impact the American public's rights, opportunities, or access to critical resources or services” (The White House, 2022).

At this point, two things are clear:

1. Change is inevitable
2. International regulations are urgently needed.

Working on the assumption that point number one above will continue, unregulated, at its current rapid speed, and number two will eventually happen but not as quickly as point number one, we can now justify the need to assess which human rights are most likely to be impacted by the unregulated advance of AI.

This thesis aims to compare current predicaments and proposed solutions arising from the growth of AI. It analyzes the background to the problem – namely, unregulated growth in artificial intelligence which serves to cut costs and improve our lives but, paradoxically, infringes on some of the most valued human rights. Through comparative analysis, this thesis will attempt to highlight potential future human rights violations and make recommendations on which are to be urgently addressed. For such an assessment, the Universal Declaration of Human Rights (UDHR), the European Convention on Human Rights (ECHR), the US Constitution and the Discrimination in Employment Convention will be among the sources analyzed and compared to argue cases for possible human rights violations. As the literature is also playing catch up, recent online articles, press releases, newspaper articles and records of conferences and meetings will also be utilized for their current significance.

The thesis mainly uses qualitative methods to understand the impact of AI on our present lives. The qualitative research is also based on existing data from peer-reviewed academic sources. Analyses are conducted using qualitative methods, such as thematic analysis and discourse analysis. Accordingly, these methods are most appropriate for answering the research question, and they should be the most effective method to use.

Additionally, qualitative comparative analysis is used when investigating specific areas of human rights where facts and figures best highlight the scope of the unfolding challenge. The quantitative methods used will also draw on data collected by others in specific areas of research which are relevant for this topic. This thesis aims to offer an impartial and objective view of the scope of a problem whose humanitarian precedence could otherwise be obfuscated by political and commercial bias.

2. Artificial Intelligence

2.1 Definition

As mentioned in the introduction, we have been using the term artificial intelligence for over fifty years, and therefore it is understandable that the exact definition changes with every new advance and innovation. At a conference at Dartmouth College in 1956, artificial intelligence was first conceptualized by “founding fathers of AI” John McCarthy, Marvin Minsky, Claude Shannon, and Nathaniel Rochester. And despite its many levels and advances over the years, McCarthy stood by his original definition in an interview published by Stanford University in 2007 where he stated that AI was:

[...] the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable (McCarthy, 2007).

A few years before McCarthy et al. presented their ideas in 1956, another computer scientist, Alan Turing, laid the groundwork for later explorations in AI by posing the question of whether machines can think. Turing devised the "Turing Test," in which a human interrogator attempted to distinguish between a computer response and a human response. Even though many have criticized this test since its publication, it remains an important part of the history of artificial intelligence, as well as a continuing philosophical concept in that it exploits linguistic concepts.

According to IBM, AI is a field “which combines computer science and robust datasets, to enable problem-solving” (IBM). IBM goes further to divide AI into two subsets: weak AI and strong AI. “Weak” might be a little misleading, but it is used only for comparison. Weak AI is what generally surrounds us today through applications such as Alexa, Siri, self-driving vehicles, chatbots, autocorrect, spam filters and Google maps, to give a few examples. Strong AI, on the other hand, refers to the theoretical intelligence of a computer which would equal and even surpass the intelligence of humans (Analytics Vidya). There are no everyday uses of strong AI in existence *at the time of writing*, and to be considered strong AI, a machine would have to pass the Turing’s Test. As we have already mentioned in the introduction, it would be premature to label this type of AI as science fiction, but for now, the best examples of strong AI are confined to fictional characters such as HAL (2001: A Space Odyssey) or The Terminator. Arend Hintze, Assistant Professor of Integrative Biology & Computer Science and Engineering at Michigan State University, published his thoughts on *The Conversation* in 2016. He is

certainly not one to dismiss the possibility of teaching machines to think, citing four types of artificial intelligence that we already have and will soon have if current trends continue:

1. **Reactive Machines:** a basic AI system with no memory or concept of the past. It perceives the world directly and reacts on what it sees. The best example given is Deep Blue – IBM’s chess-playing system which beat Garry Kasparov in the 1990s. Hintze argues that such systems are probably the most trustworthy because they react the same way each time they are presented with a problem. They will never become bored, angry, or sad.
2. **Limited Memory:** an AI system which can delve into the past to compile data. The example given are autonomous vehicles which observe other cars and how they are driving (speed, direction) in order to make informed decisions such as lane changes or braking distance.
3. **Theory of Mind:** Theory of mind is a term used in psychology. It means an AI system would be able to recognize emotions when applied to social intelligence. It is necessary for AI systems to develop this ability to predict human behavior in order to be integrated into human teams as integral members.
4. **Self-awareness:** a type of AI which does not yet exist. In this category, the machine would be aware of its own existence which would then grant them consciousness.

In 2022, a software engineer at Google, Blake Lemoine, claimed that the AI tool Language Model for Dialogue Applications (LaMDA) was sentient. His claims were dismissed by experts, but it did ignite a debate as to what defines consciousness and how close we actually are to achieving point number four above (Scientific American, 2022).

For now, and for the purpose of clarity and to avoid getting embroiled in the argument of what may or may not be possible in the near future, the simplest definition which we will proceed with is that AI is “the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings” (Britannica, 2023).

2.2 Legal Implications

The sheer speed at which artificial intelligence has developed in recent years has not only left human rights watchdogs scrambling to catch up, but also legal teams and national law makers. Suffice to say, there are no international treaties or established regulatory bodies with the power

to act on the international stage and say what is permissible and not. In short, artificial intelligence has presented us with a rapidly growing legal minefield of challenges. To name but a few, we can look at:

1. Copyright Law: a growing online trend among social media users is the use of generative tools to produce images or “art.” But can copyrights be granted to creations made by generative AI tools? Can a song written on an AI tool be considered intellectual property of the person who entered a few key words? Can a report or essay produced using ChatGPT be considered original if the AI tool used to create it draws on thousands of other sources? If not, is the current plagiarism software now, effectively, obsolete? Can rights holders choose the platforms where their original content is available for text and data mining, and are existing platforms complying with copyright law to make rights holders aware of such possibilities?
2. Hate Speech and the First Amendment / ECHR: as computer programs become more and more sophisticated and develop autonomous chat functions, where does one begin to look for accountability when such programs produce hate speech or misinformation? And under which jurisdiction do such issues fall? In the US, hate speech is protected by the First Amendment and cannot be criminalized unless it “directly incites imminent criminal activity or consists of specific threats of violence targeted against a person or group” (American Library Association). By comparison, hate motivated crime and speech are illegal under EU Law. But again, who can be held accountable?
3. Liability Issues: a similar concern to the issue above is determining liability with autonomous or semi-autonomous machines. If a self-driving car with no defects is involved in a fatal crash, who is liable? Similarly, if a doctor relies on an AI system to diagnose a patient but it turns out to be a misdiagnosis, is the doctor or the machine liable? If an AI system is involved in a breach of privacy, potentially mining sensitive and personal data, and sharing it, exploiting facial recognition technology etc., who then is liable?
4. Racial Bias and Discrimination: bots and virtual assistants which sift through job applications, mortgage applications, housing applications and tenant selection have been found to use algorithms which discriminate when making automated decisions. The FTC (Federal Trade Commission) in the United States warned businesses in 2021 that if they used such algorithms, they *may* be violating federal law (lawyerscommitte.org); the use of *may* indicating that it is far from clear.

5. Privacy Concerns: Article 12 of the UDHR stipulates that “no one shall be subjected to arbitrary interference with his privacy, family, home or correspondence” (UDHR). This, again, becomes the subject of scrutiny given the nature of how many AI operating tools function nowadays. The collection of biometric data for facial recognition, online tracking, smart payment methods, data sharing etc. all raise privacy concerns and question the legality of such practices.

The above points are only some of the many legal implications which have arisen and will continue to arise as a result of artificial intelligence, and most of these points will be expanded on in subsequent chapters. In June 2023, Business Observer about the deep-lying issues that AI presents, quoting Mark Nields, chair of the intellectual property group at Fort Myers-based law firm Henderson Franklin Starnes & Holt, who admitted “Technology is outpacing the speed of legal adoption” (Nields, 2023).

Interestingly, AI also poses an ethical debate insofar as how much can a legal professional utilize artificial intelligence for their own needs before blurring the lines of what is legal and ethical? Is it hypocritical for a legal professional to be working on a case involving any infringement from the above list while using AI as a tool to aid the process? Does it depend on the task? Identifying risks in a contract, or drafting responses to clients are surely innocuous enough? In 2012, comment 8 to rule 1.1 (competence) was added to the *Modern Rules of Professional Conduct* (American Bar Association):

To maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology, engage in continuing study and education and comply with all continuing legal education requirements to which the lawyer is subject.

What remains clear is that artificial intelligence and the legal implications remains nebulous, but the relationship between the two reaffirms the call for urgent regulations and, perhaps, a call for developments to slow down so as governments and law makers can get up to speed with the implications each new advancement poses.

2.3 Comparison between EU and United States

It is worthwhile comparing the two legislative approaches of the EU and the USA to the proliferation of AI since both, aside from China, are two of the biggest developers and

proponents of artificial intelligence. The key term which we must now consider and use is *AI Governance* – a relatively new concept but one which is forthwith required.

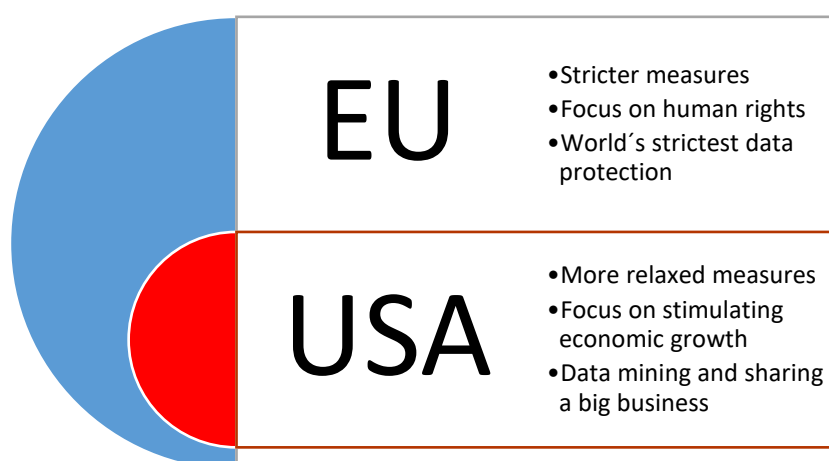
In a 2021 article *Achieving a ‘Good AI Society’: Comparing the Aims and Progress of the EU and the US* published online, Huw Roberts et al. provide a comparative analysis of the two strategies under consideration in the EU and the US. More importantly, the paper identifies key areas which need to be improved. The authors use the phrase “Good AI society” to refer to the common goal that AI governance should be working towards. However, upon comparison, the authors conclude that the EU’s approach is more in keeping with citizens rights and values (although it still has room for improvement), whereas the approach to AI governance in the US is more “laissez faire” and “ethically questionable” (Roberts et al.). Rights and values are deemed to be secondary to strengthening research and development and the encouragement of competitiveness.

It is, perhaps, the point about competitiveness where the two continents beg to differ. The US has always fostered and promoted a competitive business environment, often with regulations which EU law makers would label too soft. Nick Fick, the US ambassador for cyberspace and digital policy, recently criticized the EU’s incoming AI Act as being too restrictive for the AI industry, particularly for the USA (Digwatch). He was also far from happy with the record \$1.2 billion fine imposed on Meta by the Irish Data Protection Commission (Irish Times), stating that the six-month deadline to provide data protection was “quite an aggressive timeline to get to a [US] domestic [privacy] consensus, let alone a transatlantic consensus. But I think it’s imperative that we figure this one out” (The Irish Times).

One common value that the EU and the US share is a mutual concern over China’s emergence as a technology superpower, and how much influence they are going to be able to wield on an international stage in the very near future as AI could give China an edge over the US in the global market. The European Council on Foreign Relations (ECFR) recently observed in an article entitled *Artificial divide: How Europe and America could clash over AI* that the US has consequently become increasingly motivated to pursue international cooperation in order to counter China's AI ambitions, such as its efforts to dominate international technology standards bodies (ECFR). President Joe Biden expanded on this further with a rallying call published in Foreign Affairs in 2020 (*Why America Must Lead Again*) where he was quoted as saying: “As new technologies reshape our economy and society, we must ensure that these engines of progress are bound by laws and ethics [...] where the rules of the digital age are written by China and Russia” (Foreign Affairs, 2020).

In terms of data sharing and data protection, the EU has been strict on such matters since the General Data Protection Regulation (GDPR) was updated and passed in 2018. Since then, the EU and the US have been at odds with each other over how data is managed, shared, and stored. One of the main issues was always centered on US national security concerns and EU privacy rights. However, in July 2023, a deal to ensure that data between the two continents can continue to flow was completed. The deal outlines the scope of the use of personal information by intelligence agencies in the European Union and how such use can be appealed by Europeans. A New York Times article from July 10th, however, reported that some members of the European Parliament were unhappy with the deal, citing a lack of protection would leave the data of millions of European vulnerable to mass surveillance and undermine their privacy rights (New York Times, 2023).

To summarize the main differences, we can so far observe the following:



At the time of writing, the EU is pushing for more public transparency in the everyday role of AI in society. The US, on the other hand, is investing more in new technologies aimed at mitigating the risks which could potentially be posed by AI in the future (Brookings). In sum, despite having two different points of focus, both the US and the EU are working towards the same goals, although it may take some time before the two legislative bodies work in harmony.

2.3.1 Regulation in the EU

The following information has been sourced directly from the European Parliament, as when dealing with 27 member states, it is much more practical to research the governing body rather than individual member states' governments. The European Commission proposed the first EU

regulatory framework for AI in April 2021. with AI systems to be classified and regulated according to the risk they pose to users, becoming the world's first rules on AI if or when approved.

The proposal would mean that all systems, even if posing a minimal risk, would need to be assessed. In June of 2023, the European Parliament updated and published their proposals to the European Parliament website. They categorized the risks as follows:

- Unacceptable risk: systems considered a threat to people and their safety. Such systems will be banned. Examples include, but are not limited to:

“Cognitive behavioural manipulation of people or specific vulnerable groups: for example, voice-activated toys that encourage dangerous behaviour in children;

Social scoring: classifying people based on behaviour, socio-economic status, or personal characteristics;

Real-time and remote biometric identification systems, such as facial recognition”

(Source: European Parliament website).

- High risk: systems which negatively affect rights and safety of individuals or groups, such as AI-powered medical devices, elevators, cars, planes, and toys; also, border control software, biometric identification software, legal interpretation tools, and employee management software among others.
- Generative AI: this includes ChatGPT which would need to be programmed so it cannot generate illegal content while at the same time disclosing that the content created was generated by AI.
- Limited risk: such AI systems will make users aware they are interacting with AI and allow them to decide whether they wish to continue using such software which may be manipulating an image or video content.

“On 14 June 2023, MEPs adopted Parliament's negotiating position on the AI Act. The talks will now begin with EU countries in the Council on the final form of the law. The aim is to reach an agreement by the end of this year” (European Parliament).

2.3.2 Artificial Intelligence Act

The Artificial Intelligence Act is the proposed new law which the EU hopes to pass by the end of 2023. It would be the first of its kind law on AI by any major regulator. The proposal was first published in Brussels in April 2021, but EU lawmakers agreed on stricter measures in June 2023 to include a ban on the use of AI software in biometric surveillance and for generative AI tools such as ChatGPT to disclose AI-generated content. Among the key points covered in the AI Act are strengthening regulations on data quality, transparency, human oversight, and accountability. Various sectors ranging from healthcare and education to finance and energy will also be covered, including ethical issues and implementation challenges.

Another key goal of the AI Act is, according to Thierry Breton, Commissioner for Internal Market, to “strengthen Europe's position as a global hub of excellence in AI from the lab to the market, ensure that AI in Europe respects our values and rules, and harness the potential of AI for industrial use” (Breton, 2021). And those companies who fall short of the aforementioned “respect” could find themselves severely out of pocket. To ensure companies abide by the new proposals, the AI Act is also proposing hefty non-compliance penalties, with fines which could reach up to €30 million.

A European Artificial Intelligence Board will also be established through the proposed law to ensure that the regulation is implemented uniformly throughout Europe. As well as providing guidance to national authorities, the body would issue opinions and recommendations on emerging issues (World Economic Forum, 2023).

2.3.3 Regulation in the United States

The United States is some way behind the EU in terms of proposing legislation to regulate AI. There are two scenarios at play in this regard:

1. Wait too long, and the United States will find itself at the mercy of EU regulations which could become the industry standard.
2. Wait and see what happens in the EU at the end of 2023 (assuming that is when the AI Act passes) and react accordingly.

However, there are still no concrete proposals in place at the time of writing, and every independent call to action is purely speculative. Even if we focus on 2023 as the most recent and, therefore, relevant announcements, we can see from the following timeline just how much more needs to be done:

- May 16th – OpenAI CEO Sam Altman testifies before the Senate Judiciary Privacy, Technology & the Law Subcommittee hearing and urges lawmakers to regulate AI, suggesting a licencing regime as a possible solution. Later, he told reporters that it might be a case of looking internationally, not just nationally, for regulations, comparing the current technology to that of nuclear power and the establishment of the IAEA (politico).
- May 19th – *Harvard Business Review* publishes *Who Is Going to Regulate AI?* In the article, the authors do not address the question of when AI will be regulated, but rather by whom. Congress, the Biden Administration, the Department of Commerce, the Federal Trade Commission, and even individual states have been touted as potential candidates for jurisdiction over any regulations.
- June 13th – *The Guardian* publishes an article, *The EU is leading the way on AI laws. The US is still playing catch-up*, in which the writers highlight how far behind and in the dark US Lawmakers are compared to their EU counterparts, highlighting how the companies entrusted with the development and spread of AI are the same companies that have been hauled before Congress in the past for antitrust violations.
- June 14th – The American Bar Association (ABA) publishes an online article *What could AI regulation in the US look like?* whose title alone highlights the gulf between the US and the EU in terms of decision-making.
- June 19th – Elon Musk attends Viva Technology conference in Paris and repeats the call for AI regulation, conceding that “There is a real danger for digital superintelligence having negative consequences” (Musk, 2023).
- June 20th – Congressman Ted Lieu, Congressman Ted Buck and Congresswoman Anna Eshoo introduced the National AI Commission Act: “bipartisan and bicameral legislation to create a national commission to focus on the question of regulating Artificial Intelligence” (lieu.house.gov)
- June 21st - Senate Majority Leader Charles E. Schumer urges officials to move cautiously while assisting key lawmakers across the chamber in crafting bipartisan proposals to address concerns about the technology's impact on privacy, intellectual property, and national security (The Washington Post).
- June 27th – *Forbes* chimes in with its opinion with an aptly titled article *AI Regulation Is Coming To The U.S., Albeit Slowly*. The article focuses on a bipartisan group of legislators’ bill to create a commission who could “review the United States’ current

approach to AI regulation, make recommendations on any new office or governmental structure that may be necessary, and develop a risk-based framework for AI” (Forbes).

There are many more scholarly articles on the topic, which all go to prove two things: 1. The US is seriously lagging and runs the risk of playing a peripheral role as far as AI regulation is concerned, and 2. the topic is, at least, a mainstream discussion which is being taken seriously by all sides. The latter should serve as encouragement for moving forward, especially when tech leaders in the industry are practically begging to be regulated. Whether or not the lawmakers at national levels can quickly agree on measures which will safeguard the general public without jeopardizing the economic benefits remains to be seen.

3. Affected Human Rights

With the speed of change, it is only natural that the fervor surrounding artificial intelligence will see some important consequences of AI get swept under the rug. It seems, however, that warnings over its unregulated growth are being taken seriously and not merely dismissed in the name of scientific progress, as the US, the EU and even China begin discussions to plan the next steps.

Until now, though, no such regulations are in place, even if we are to believe the EU is making the most progress and is on course to pass its Artificial Intelligence Act by the end of 2023. Therefore, it is at this point that we can now investigate which human rights have so far been affected and which are then likely to be affected if we operate under the assumption that regulations will continue to be touted but not put into force. In order to do this, we must both look at the US and the EU independently while also examining which governing bodies’ treaties and articles are affected.

3.1 The EU

To analyze the affected human rights within the EU, the following treaties will be examined:

- The EU Charter of Fundamental Rights (FRA)
- The Universal Declaration of Human Rights (UDHR)
- The European Convention on Human Rights (ECHR)
- The Discrimination in Employment Convention

- The International Covenant on Economic, Social and Cultural Rights Covenant (ICESCR)

As previously mentioned, the European Union has already taken important steps to provide greater privacy protection for its citizens with the General Data Protection Regulation (GDPR) which passed in 2018, allowing consumer control of their personal data. Yet with the onset of AI, questions began to surface over how secure AI was and whether it was violating any existing privacy laws. Some have already expressed concern over the recent EU-U.S. Data Privacy Framework which allows the transfer of data from the EU to the US. The framework was seen as a big win for US tech giants who had found their access to data severely limited by the GDPR, leading to concerns over the influence of lobbyists. An article published on the website for Human Rights Watch (HRW) urged lawmakers in the EU not to repeat the same mistake when moving forward with the AI Act: “Negotiators of the AI Act must not give in to lobbying efforts of large tech companies seeking to circumvent regulation for financial interest” (HRW.org). The harsh reality, however, is that the AI Act has been relying on the input from many companies outside of Europe to help draft its legislation, initially leaning on the European Telecommunications Standards Institute (ETSI) for input in the planning process. When concerns were raised over where ETSI’s interests lay, the latter were reduced to a consulting role. Two months prior to this decision, Politico published an article in October 2022 where it questioned the group’s loyalties:

France-based ETSI counts over 900 members, including tech giants like Microsoft and Facebook’s parent Meta Platforms as well as European defense companies like Thales and Chinese telecoms equipment provider Huawei. The ETSI group coordinating AI work is led by executives from Japanese telecoms company NEC, China-based Huawei and U.S. chipmaker Intel (Politico).

In order to understand the scope of the problem as far as human rights are concerned, we should at this point list some of the main concerns which AI has posed, and apply existing frameworks as necessary. The following list will form the basis of the analysis:

- Surveillance and Privacy
- Bias and Discrimination
- Intellectual Property
- Workers’ Rights
- Liability and Accountability

Surveillance and Privacy

This has always presented a huge issue for legal scholars and the more informed public alike. Issues in this field include, but are not limited to, informed consent, mass surveillance, infringement of data protection rights of individuals, right to prevent processing likely to cause damage or distress, right not to be subject to a decision based solely on automated processing etc. In a paper entitled *A Right to Reasonable Inferences: Re-Thinking Data Protection Law in the Age of Big Data and AI* (Columbia Business Law Review, 2019), authors Wachter & Mittelstadt raise concerns about inferences – that is, data mining techniques used to infer sensitive information through indirect access. According to the authors, individual control, and oversight over how their personal data is used for inferences is limited. “Compared to other types of personal data, inferences are effectively “economy class” personal data in the General Data Protection Regulation (“GDPR”)” (Wachter & Mittelstadt, 2019). Arguably, one of the best-known and notorious examples of inferences in recent times has been the Pegasus spyware – software developed by the Israeli NSO Group ostensibly for crime and terror prevention; typically, though, it was used to spy on political figures, journalists, and civil society leaders. It runs as zero-click spyware that does not require any user interaction from the victim to install, meaning, victims are oblivious to the act. Dubbed the “EU’s Watergate” (Die Deutsche Welle), the Pegasus Spyware scandal has blown the lid off data privacy controls and exposed just how vulnerable our data is despite the many regulations and protection offered by the GDPR.

In January 2023, the European Parliament published a report by the Policy Department for Citizens’ Rights and Constitutional Affairs which highlighted how the impact of pervasive surveillance in the EU undermines a whole host of rights and principles, impacting individual, political and cultural fields. Referencing the EU Charter of Fundamental Rights, the report finds that mass surveillance, such as Pegasus, impacts, among others:

- The principle of dignity (Art. 1).
- The right to liberty and security (Art. 6).
- The rights to private life and data protection (Arts. 7 and 8).
- Freedom of thought, conscience, and religion (Art. 10).
- Freedom of expression and information, including the freedom of the media (Art. 11).
- Freedom of assembly and association (Art. 12), including the freedom to join political parties (Art. 12(2)).

- Freedom of the arts and of scientific research and academic freedom (Art. 13).
- The right to property (Art. 17), especially where, as in the case of Pegasus, the surveillance involves access to individual property.
- The right to non-discrimination (Art. 21), where surveillance or consequent actions are specifically directed against individuals belonging to particular groups, as identified, e.g., by their holding certain political views.
- The right to engage in collective action (Art. 28), where workers and their organisations are targeted.
- The right to stand as a candidate in European and municipal elections (Arts. 39 and 40), where individuals who hold political positions or aspire to hold them are targeted, thereby affecting participation in elections or the fairness of the electoral process.

(Source: The European Parliament)

In addition to the FRA, we can also argue a case for violations of articles 8, 9, 10 and 11 of the ECHR, since the right to respect for private and family life, freedom of thought, conscience and religion, freedom of expression, and freedom of assembly and association respectively are all threatened by surveillance programs such as Pegasus.

With reference to the UDHR, surveillance operations may be in violation of articles 2, 3, 12, 17, 18, 19, 20, 21, 22, and 27. Many of the possible violations listed here are common to all the treaties mentioned, making it somewhat easier to compile a case against surveillance infringements. But when national governments and member states of the EU are complicit in the purchase of spyware, accountability and punitive measures become quite complicated to hand down.

Bias and Discrimination

In everyday life, algorithms are making our lives easier, tailoring advertisements to suit our preferences, detecting spam in emails, suggesting videos we may be interested in on platforms such as YouTube, programming traffic lights to suit the traffic flow at particular times of the day, ranking searches on Google, or showing you what you more likely want to see on your social media feed. But as algorithms become more and more sophisticated and high-tech, the AI involved has come under scrutiny for its bias and discrimination when deployed to perform certain tasks. An example of this would be automated selection of candidates for a job, whereby

AI scans the applications seeking key words and discounting others who may be adequately suitable to apply. The same software is commonly used to filter candidates in university admissions, grant applications, loan applications and allocations of healthcare spending. FTI Consulting in their 2022 article *Mitigating Artificial Intelligence Bias Risk in Preparation for EU Regulation* perfectly summed it up when stating: “We expect machines to be objective decision makers, but the reality is that human bias can —and inevitably will — infiltrate AI systems at multiple stages of their lifecycles, from before they are even conceived to many years into their deployment” (FTI Consulting, 2022).

Regardless of how the bias and discrimination unfolds, be it through an online application for a job, car loan, university admission, or biometric scanning in an immigration setting, there are fundamental rights and liberties which need to be upheld:

- Article 21 of the EU Charter of Fundamental Rights: Non-Discrimination. “Any discrimination based on any ground such as sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation shall be prohibited” (FRA).
- Article 3 of the EU Charter of Fundamental Rights: Right to Integrity of the Person. “Everyone has the right to respect for his or her physical and mental integrity” (FRA).
- Article 22 of the EU Charter of Fundamental Rights: Cultural, religious and linguistic diversity. This is particularly applicable in cases where AI deems certain words or phrases as “hate speech” and removes them, even if they are just more commonly used by a person of that religion or ethnicity.
- Article 14 of the ECHR: Prohibition of Discrimination
- Article 6 of the UDHR: “Everyone has the right to recognition everywhere as a person before the law.”
- Article 7 of the UDHR: “All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal protection against any discrimination in violation of this Declaration and against any incitement to such discrimination.”
- Article 21(2) of the UDHR: “Everyone has the right of equal access to public service in his country.”

In addition to the above, we can also refer to the Discrimination (Employment and Occupation) Convention, which although came into effect in 1958, still resonates with today's issues posed by AI. In Article 1 (a) of the convention, discrimination is defined as:

“any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation.” This is certainly something which ought to be taken into account and become industry standard when programming and applying algorithms for use in everyday life, now and in the future.

Intellectual Property

There are at least three international covenants covering intellectual property rights: the Universal Declaration of Human Rights (UDHR, Article 27, paragraph 2), the International Covenant on Economic, Social and Cultural Rights (ICESCR, Article 15), and the Vienna Declaration and Programme of Action (VDPA) 1993.

This is also a relatively new issue which AI has presented, especially since the use of generative software tools such as ChatGPT have become commonplace. The question of intellectual property relates to ownership of the images or texts which are generated. Can IP rights be granted to the author of a given text if the author in question used a generative software tool which, in turn, takes the ideas from hundreds or thousands of other original pieces? In April 2023, new copyright rules for generative AI were agreed to be included in the forthcoming AI Act (Reuters).

Workers' Rights

It could be argued that the Covid-19 pandemic reshaped and redefined the world of work, with many businesses turning to technology to replace humans either in quarantine, lockdown or absent due to illness. The effects have been far-reaching, with technology and AI already replacing large sectors of the workforce from bankers to travel agents, copy editors to photographers, voice over artists to translators. Nowadays, we have an app for nearly every job just mentioned, and if the actors strike in Hollywood in summer of 2023 is anything to go by, AI will be encroaching further into human work territory very soon. SAG-AFTRA, the actors' union, fears that AI in the future will lead to significantly fewer jobs for actors (CNN). The striking actors were, in effect, exercising their freedom of peaceful assembly and association (UDHR article 20).

In the future, we need to ensure that AI does not impact:

- UDHR, Article 23: “Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment. Everyone, without any discrimination, has the right to equal pay for equal work. Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity, and supplemented, if necessary, by other means of social protection. Everyone has the right to form and to join trade unions for the protection of his interests.”
- EU Charter of Fundamental Rights, Article 15: “1. Everyone has the right to engage in work and to pursue a freely chosen or accepted occupation. 2. Every citizen of the Union has the freedom to seek employment, to work, to exercise the right of establishment and to provide services in any Member State. 3. Nationals of third countries who are authorised to work in the territories of the Member States are entitled to working conditions equivalent to those of citizens of the Union.”
- EU Charter of Fundamental Rights, Article 15: 1. “Every worker has the right to working conditions which respect his or her health, safety and dignity. 2. Every worker has the right to limitation of maximum working hours, to daily and weekly rest periods and to an annual period of paid leave.”
- ICESCR, Article 7: “[...] the right of everyone to the enjoyment of just and favourable conditions of work [...]”

Workers’ Rights could also have a series of knock-on effects if severely impacted, because if a large enough number of jobs are replaced by machines, we then invoke other freedoms such as the right to social security (UDHR article 22), and the right to a standard of adequate living (UDHR article 25). Another future dilemma not to be dismissed as science fiction is the question of if machines one day become sentient, will they then be afforded the same workers’ rights as humans? Critics will dismiss such an idea now, as in 2007 when Microsoft CEO, Steve Ballmer claimed that the iPhone would not get any significant market share.

Liability and Accountability

The question of liability and accountability usually hinges on how much humans are involved in the decision-making process of machines. If a driverless vehicle, for example, commits a traffic offense or hits a pedestrian, the question of liability arises. Similarly, if an AI tool is used to give misleading medical or legal advice, we begin to touch on how far-reaching any further advances could go. We have seen many example in the past years of how electronic voting

systems can either be manipulated or lose votes, which could be found to be in violation of articles 39 and 40 of the EU Charter of Fundamental Rights. Relying on technology, however, to provide us with information with which we make informed decisions is not a new concept. Meteorologists have been using such tools for decades to inform the public of weather patterns and warn them of any forthcoming dangers; and for the most part, such tools have proved accurate. However, when human rights are suddenly affected by a lack of liability and accountability in cases where machines get it wrong, we need to take steps towards more transparency. The more advanced such tools become, the more difficult this will be, as there are many players involved in the finished AI product, from the designer to the developer, the programmer to the manufacturer; even the data provider or the end user could all end up involved in a legal case. Moreover, the more AI replaces humans in everyday life, the more we need to uphold our rights and freedoms and not just dismiss every wrongdoing at the hands of machines as a “technical fault.”

Rights that could be impacted now, and in the future, include:

- UDHR, Article 3: “Everyone has the right to life, liberty and security of person.”
- UDHR, Article 7: “All are equal before the law [...]”
- UDHR, Article 8: “Everyone has the right to an effective remedy by the competent national tribunals for acts violating the fundamental rights granted him by the constitution or by law.”
- UDHR, Article 21: “Everyone has the right to take part in the government of his country, directly or through freely chosen representatives.”
- ECHR, Article 8: in respect to private and family life if the person is victim of a cyberattack.
- EU Charter of Fundamental Rights, Article 38: Consumer Protection, especially in cases of misleading advice or personal harm.
- ICESCR, Article 7(b): “Safe and healthy working conditions.”

3.2 The United States

To analyze the affected human rights in the US, the following treaties will be examined:

- The Universal Declaration of Human Rights (UDHR)
- The International Covenant on Economic, Social and Cultural Rights Covenant (ICESCR)
- The American Constitution

It is worth noting that all the affected rights from the previous paragraph are still relevant when discussing the United States, especially when invoking the Universal Declaration of Human Rights and rights which fall under the guidelines set forth by the ICESCR. This paragraphs will then look at a few extra examples of how rights of American citizens could be impacted by the growth of AI, again, taking the previous five sectors of society.

Surveillance and Privacy

In one of few areas where Democrats and Republicans agree, both sides of the political divide are calling for stronger regulation on tech companies – but exactly how to proceed remains the sticking point. China’s ownership of TikTok and its popularity in the US is a major cause for concern in terms of US consumer data being mined and stored by a major competitor on the world stage. One response saw four senators introduce a bill which would effectively prohibit children under the age of thirteen from using social media platforms. Critics to such a measure have already voiced their concern, citing human rights violations in accordance with UDHR articles 19 (Freedom of opinion and expression) and 21.2 (“Everyone has the right of equal access to public service in his country”) where teenagers would be unable to access information which may actually help them (PBS).

In terms of regulation, Senate Leader Chuck Schumer has called on any regulation to “prevent potentially catastrophic damage to our country while simultaneously making sure the U.S. advances and leads in this transformative technology” (Reuters, 2023). With such a statement, Schumer has unwittingly summarized the paradox that is hampering US lawmakers progress with AI regulation which, as we have already mentioned, is in danger of rendering the US a follower rather than the leader it wishes to be.

With regard to affected human rights, assuming regulation in the US is still some way off, and if or when it does pass that it is likely to favor the tech giants over the US citizens, we can add the following potential violations:

- First Amendment (Freedom of Speech)
- Fourth Amendment (“The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches [...]”)

Bias and Discrimination

In the Blueprint for an AI Bill of Rights, the White House continues its use of “should” when mapping out its proposals for regulations to prevent bias and discrimination, calling for systems

to be designed in “an equitable way” (White House). Further, the proposal demands that future protections

[...] should include proactive equity assessments as part of the system design, use of representative data and protection against proxies for demographic features, ensuring accessibility for people with disabilities in design and development, pre-deployment and ongoing disparity testing and mitigation, and clear organizational oversight (White House).

Such statements will do little to slow down an already changing field. According to a 2023 report by the US Equal Employment Opportunity Commission, 83% of employers, including 99% of Fortune 500 companies, use some form of automated hiring tool.

Until systems are designed in an equitable way, or there are limits as to how such systems can be deployed, potential human rights violations, in addition to the previously-mentioned rights set out in the UDHR, could include:

- First Amendment (the right of the people peaceably to assemble) – specifically if law enforcement uses such information to break up peaceful protests before they have begun, as we have seen in the past with Black Lives Matter protests.

Intellectual Property

A patent inventorship extension for an Artificial Intelligence ("AI") named DABUS was declined by the United States Patent and Trademark Office ("USPTO") on April 27, 2020. (American Intellectual Property Law Association). It was found that AI cannot be considered an “inventor,” settling the debate (for now) as to “who” qualifies as author or inventor. However, the laws and protections on AI-generated work remains unclear. Lawsuits are actively being filed against generative AI platforms, arguing they are using their copyrighted materials to train their own AI tools, e.g., Getty Images vs. Stability AI. “Stability AI unlawfully used Getty’s copyrighted images and associated text and meta-data to train its AI text-to-image tool Stable Diffusion, the most recent lawsuit says” (Bloomberg Law, 2023).

In a report published by Congress in May 2023, the Congressional Research Service added that “Congress may wish to consider whether any of the copyright law questions raised by generative AI programs require amendments to the Copyright Act or other legislation.” (Congressional Research Service, 2023). In sum, IP rights violations remain unclear in the US.

Workers’ Rights

In 2018, Forbes published an article predicting AI would create 58 million new jobs by 2022, creating more jobs than it replaces (Forbes, 2018). Conversely, MIT updated the prediction, highlighting that “the impact of robots varies widely by industry and region, and may play a notable role in exacerbating income inequality” (MIT), adding that for each robot added, 3.3 human jobs were replaced.

Rights of US citizens, in addition to the UDHR article 23, which may be argued as being violated by the current expansion of AI into the labor market include:

- ICESCR Article 6(1): “The States Parties to the present Covenant recognize the right to work, which includes the right of everyone to the opportunity to gain his living by work which he freely chooses or accepts, and will take appropriate steps to safeguard this right.”
- ICESCR Article 7(a)(i): “Fair wages and equal remuneration for work of equal value without distinction of any kind, in particular women being guaranteed conditions of work not inferior to those enjoyed by men, with equal pay for equal work.”

Liability and Accountability

Currently, creators of AI software or hardware are not liable for any injuries if the products were not defective when they were created. It is, however, possible for both licensees and licensors to be liable if AI is defective or modified by a licensee in a way that makes it more dangerous (Stanford Law School). The problem, as with the EU, is identifying which of many parties involved in the development of the AI can possibly be deemed at fault. In an opinion piece published in The Scientific American (Who Is Liable When AI Kills?) in 2022, the authors conclude that “Getting the liability landscape right is essential to unlocking AI’s potential. Uncertain rules and potentially costly litigation will discourage investment in, and development and adoption of, AI systems.” Until this happens, liability and accountability will remain an ill-defined area.

4. Human Rights and Working Conditions in the EU

There are certain minimum rights every worker in the EU has, including health and safety rights at work, equal opportunity rights, and maternity and paternity leave rights. Workers also have protections against discrimination based on gender, age, religion, disability, and also rights which deal with working hours, holidays, contracts, and freedom of movement. The right to fair working conditions is set out in several EU treaties, for example:

- The European Pillar of Social Rights: Principle 10 – “Healthy, safe and well-adapted work environment and data protection: Workers have the right to a high level of protection of their health and safety at work. [...]”
- The Charter of Fundamental Rights of the European Union: Article 31 – (Fair and just working conditions) where:
 1. Every worker has the right to working conditions which respect his or her health, safety and dignity.
 2. Every worker has the right to limitation of maximum working hours, to daily and weekly rest periods and to an annual period of paid leave.

In addition, the EU’s Working Time Directive (2003/88/EC) necessitates EU Member States to guarantee the following rights for all workers:

- a limit to weekly working hours
- a rest break during working hours if the worker is on duty for longer than 6 hours
- a minimum daily rest period
- paid annual leave of at least 4 weeks per year
- extra protection in case of night work

(Source: The European Commission)

The information above is freely available, and although most workers in the EU are probably most aware of their holiday entitlements of at least 20 days per year (as opposed to the US which has no such statutory minimum annual leave requirement), it could be argued that the workforce of today is, thanks to easier access to and exchanges of information, more acutely aware of their rights as employees, and this has brought about a few significant changes in everyday business and the concept of work-life balance.

4.1 Recent Trends

It is no secret that the Covid-19 pandemic sparked a number of changes around the world, not only in the medical field, but also in social and business circles. Our response to the pandemic has been far-reaching, as has every nation's strategy for dealing with such a crisis, and we are still far from grasping the full extent of the changes. There have been several key developments in business as a result of fundamental adjustments and crisis management. These developments

give us an insight into what commerce may look like in the future, as well as the changing work preferences and subsequent demands of employees.

In 2019, what was seen by many as the “traditional” way of doing business changed rapidly. Due to the pandemic and the ensuing lockdowns, home-based policies, and reduced social interaction, many industries were rendered inoperable. Everything from the travel industry to the hospitality industry were affected. Airlines, hotels, restaurants, even education centers were all forced to cease operations for long periods of time. Staff were laid off or forced to accept reduced wages; companies were forced to apply for emergency funding to keep operations afloat. Consequently, the introduction of such changes forced employers to adopt new strategies, take on unprecedented roles, and become more flexible in general. As a result, they had to switch to delegating tasks to remote workers almost overnight, trusting them to complete tasks on their own; they also had to think outside the box and do what was necessary to safeguard the business, implementing a completely new way of working to ensure that customers would continue to be able to take advantage of their services. In July, 2022, Forbes published an article which alluded to such changes as being “glacial”, causing “[...] knowledge workers to realize they no longer had to accept outdated methods of work and a transactional work relationship with their employer that treats them as means of production rather than humans” (Forbes 2022). This awakening, if you will, of the workforce could be argued as being one of the most important developments in recent years; the realization that people make the company what it is; and without whom, operations would be severely compromised. Leaders had to adopt new functions after this sudden awakening, taking measures to prepare themselves for stepping away from the traditional role of managing an obedient workforce; suddenly, they were leaders in every sense of the word, and the challenge of leading a team through a pandemic was to reinvent the workplace. Using constantly-evolving technology, workers gained greater flexibility by working remotely, integrating such technologies into their everyday lives. To put it simply, companies had to quickly establish a relationship based on trust.

About a decade prior, the business world was still shaking from the financial crisis of 2008. One sector’s crash created a domino effect which affected many levels of industry across the world. As a result, companies began to consider alternative policies and newer, more innovative strategies more seriously. In the ten years between the financial crisis and the pandemic, changes were steady but slow. The pandemic, it seems, created a niche in the market and inadvertently accelerated the rate of digitalization.

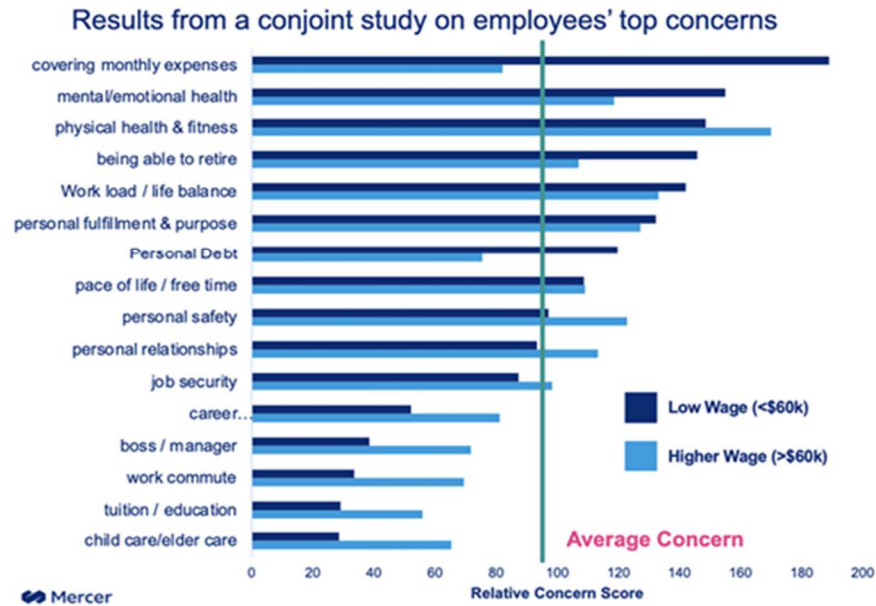
The pandemic also highlighted how similar our situations were, regardless of old hierarchies. With schools forced to close, staff and managers both work from home, juggling work commitments and caring for children. It quickly became normal to have an online meeting interrupted by a child, a doorbell ringing, or a weak signal etc. In the past, this may have been viewed as unprofessional, but as the pandemic affected every walk of life, it was essential that empathy be adopted into the everyday running of a business. Companies had to accept that in order to retain staff who were suddenly forced to work under new conditions, compromise was needed. Referring again to the Forbes article, in the future, knowledge workers are going to be in high demand and they are going to know their worth to the company – any business who fails to let go of the old industrial managerial mindset will risk losing such workers to more appreciative competitors (Forbes).

One of the biggest, unforeseen effects of the pandemic is what many have referred to as *The Great Resignation*, a term coined by Antony Klotz, associate professor of management at Texas A&M University, in an interview with Bloomberg Businessweek in May 2021. The psychological repercussions of being locked down, having no work and no guarantee of income took its toll on a great many workers, resulting in an unprecedented trend of workers resigning and/or re-training. That employees should choose to leave their jobs in the middle of pandemic was something that companies could not have predicted.

There are many reasons for the above trend, reasons that are only now coming to light. One theory centers on the home-office plan. In previous years, workers' request for more home office days generally fell on deaf ears. It simply boiled down to a trust issue – how can we guarantee the employee is working when management are not there to supervise them? With the pandemic, home office became the new normal, and workers quickly realized that remote work was as productive as on-site work; the main advantage being that home office virtually eliminated all commuting time. Employees thus developed a preference for flexible hours and location, accustomed to the benefits of being able to work remotely: flexible working hours and schedules, saving money on traveling and having more time for families.

The major reasons for considering a change of job or career, according to the 2021 Mercer Inside Employee's Minds survey, were payment concerns, mental and emotional health, and physical health.

What's keeping your workforce up at night? A tale of two workforces



Source: Mercer.us

The pandemic has shown that the modern workforce realizes their worth and that they also have many more opportunities at their disposal. The Great Resignation was a cold slap in the face to many industries who had previously assumed that they were generally the masters of their employees' fate; that there were numbers in reserve when it came to a workforce. After 20 plus months of being forced to either work from home or to accept government compensation packages, large swathes of the workforce simply resigned and retrained. The result of this is that we can now, in 2023, see many sectors of business struggling to fill positions that were previously flush with applicants: plumbers, electricians, flight attendants, teachers, and waiters make up just a few of the fields of work that have seen an exodus of workers.

To counter this in the future, companies need to anticipate and prepare accordingly. They need to prioritize employee wellbeing, creating a work environment that promotes better mental and physical health. Flexibility is something which is tied in with this: employees who do not feel under pressure to be at a certain place at a certain time or risk punishment will inevitably reward companies with a greater degree of loyalty and, perhaps, greater output. If a company does not offer flexibility and autonomy, they risk losing that employee to a rival company who offers more favorable conditions.

Another key takeaway from the report by Mercer is the gap between high wage and low wage workers. ‘Covering Monthly Expenses’ is by far the biggest concern for low wage staff, and so companies should be able to anticipate that it is precisely this group which are the biggest flight risk. If retaining knowledge and creating an environment where employees feel committed to one company is a goal, then salaries will need to be addressed so that those who contribute are rewarded accordingly. At the end of the day, if a competitor offers more, the competitor will end up with that worker.

A 2020 McKinsey report revealed that companies "deprioritized innovation" and were “shoring up their core business, pursuing known opportunity spaces, conserving cash, and minimizing risk, and waiting until “there is more clarity,” (McKinsey 2020).

The report goes on to look at how, historically, those companies that prioritized innovation during a crisis more often than not emerged in a much better position than those whose strategy was to batten down the hatches. “[...] many of these dynamics are ingredients for disruption from which new business models emerge” (McKinsey 2020). Not every company has survived the pandemic to enjoy the luxury of hindsight, but for those starting out now, lessons can be learned from those who, under the stewardship of forward-thinking leaders, emerged from the pandemic relatively unscathed and with a work ethos that will carry them into the future. The future relies on innovation, and sacrificing the future to safeguard the past is non-sensical. Regardless of past models of success, the future is a completely different piece of software with which past models are no longer compatible.

So, where does that leave us now? As mentioned, employees of today are probably more aware of their rights and their value to a company. If anything, the pandemic has strengthened their desire for a greater work-life balance, for more flexibility, and empowered them to explore their rights in greater detail – that holidays are there to be taken; that there is no shame in taking paternity leave; that they are not expected to answer work emails after a certain time and definitely not on weekends or vacation. And as technology and AI evolve to play an ever-increasing role in our day-to-day business, companies will need to strike a balance between maintaining control of such developments and entrusting workers to adopt and implement innovations without having to report and justify every decision they make. In this sense, the role of the leader will be to ensure that everyone is on the same page as to what the role of technology is in the company, and ensuring that each member of staff is confident and comfortable with the changes that technology will impose.

4.2 The Role of Technology in Recent Trends

While the business world was reeling from the aftermath of the financial crisis and the implications of the Covid-19 crisis, technology in the meantime remained in the background, developing at a rapid pace, and progressively exerting more and more influence on our lives. Many of the recent implications of artificial intelligence have happened since 2008, and the post-pandemic world is a much different landscape in terms of technology than it was before the crisis. Slowly but surely, we have adopted the new developments and made them part of our everyday lives in the last few years: Amazon's Echo Dot (Alexa), more and more streaming services, food delivery apps, Apple Pay and a host of other alternatives to traditional banks, cloud computing, 5G, electric vehicles, blockchain technologies – the list goes on.

Regarding working conditions, the EU has some of the most employee-friendly policies in the world. These will vary from member state to member state, but generally speaking, there is ample free time, maternity leave, sick leave and working hours across the bloc. However, with the advent of new technology, it has become not just a case of analyzing which jobs have been created and which jobs have been replaced, but also focusing on what people do on the job and how exactly they do it. In this respect, remote working has been one of the biggest changes in recent years, affording people more free time by eliminating the need to commute. This has added to the work-life balance satisfaction for many employees. Moreover, in 2019, the European Commission published an article based on a report by the Joint Research Centre in which one of the key takeaways was that “Jobs requiring a combination of digital and non-cognitive skills (such as communication, planning, teamwork) will likely be in higher demand in the future [...] often offering better-paid career opportunities than others” (JRC). The report also noted how, on the flipside, digital skills and ICT (Information and Communication Technology) skills were severely lacking across the bloc, and more so in rural areas, citing that almost 40% of the labor force in the EU has little or no digital skills (JRC); the danger here being those who lose their jobs will be ill-equipped to find a new position in the rapidly changing job market, in turn creating a headache for social security and unemployment schemes in every country. Such concerns were echoed by the International Labour Organisation (ILO), as well as the European Trade Union Institute (ETUI) and the European Trade Union Confederation, who warned about the repercussions of where we were heading in terms of technology and the workplace in terms of social effects, and that such changes “should not spell the end of workers’ rights, including the right to collective bargaining” (ILO). Ultimately, the ILO call for a “human-centred agenda for the future of work” (ILO) which entails increasing

investment in people's capabilities (education and training), increasing investment in the institutes of work (employment contracts and collective agreements over hours etc.), and increasing investment in decent and sustainable work (such as development of the rural economies) (ILO).

With this in mind, it is clear that the role of technology, and especially AI, is having and will continue to have a huge impact on the working conditions and practices in the European Union. While the EU has enjoyed years of progress and stability through its single market membership, freedom of movement for the workforce, generous social benefits etc., it is crucial that each member state prepare its workforce accordingly: bring the population up to speed with the changes that are happening, invest in continuous training and education, and ensure a plan is in place so that every human job lost to a machine can be moved to another area where human input is needed and valued. Failure to do so will lead to enormous strains on social welfare systems and local and regional 'brain drains' as workers move elsewhere in search of employment.

4.3 The Situation in Austria

As an EU member state, Austria upholds many of the previously-mentioned minimum standards as outlined by the EU, but also has its own state legislation which dictates working conditions within the country. In Austria the 39.5-hour week is standard, where employees work a half-day on Fridays. Austria has no national minimum wage, but the minimum wage for employees is stipulated in the relevant collective agreements. As an overview, working conditions and some key benefits of working in Austria are as follows:

- *Maternity and Parental Rights:*

Women are not permitted to work eight weeks prior to their due date or for eight weeks after birth. Maternity leave can be taken for up to two years, with the salary reduced incrementally from full pay to a lower percentage depending on the type of work. It is also prohibited under Austrian law for employers to dismiss workers when they learn of pregnancy and during the two-year parental leave period.

- *Holidays and Paid Time off*

Under Austrian employment law, employees get 25 days' paid holiday per year, which rises to 30 days after 25 years of service. Austria also has 13 public holidays which also count towards paid leave.

- *Sick Pay*

Sick pay covers six to 12 weeks of full pay plus four weeks of half pay, depending on how long someone has been on the job. Also, after the statutory sick pay period has expired, sickness benefit from the social insurance system may be claimed, which varies according to salary and number of dependents.

- *Unpaid Leave*

There are no legal provisions regulating unpaid holidays in Austria. Austrian fathers are entitled to one month of unpaid leave after the birth or adoption of a child. From 1 January 2020, Austrian employment law stipulates that workers can take unpaid time or work part-time to care for sick relatives without permission from their employer.

- *Social Security*

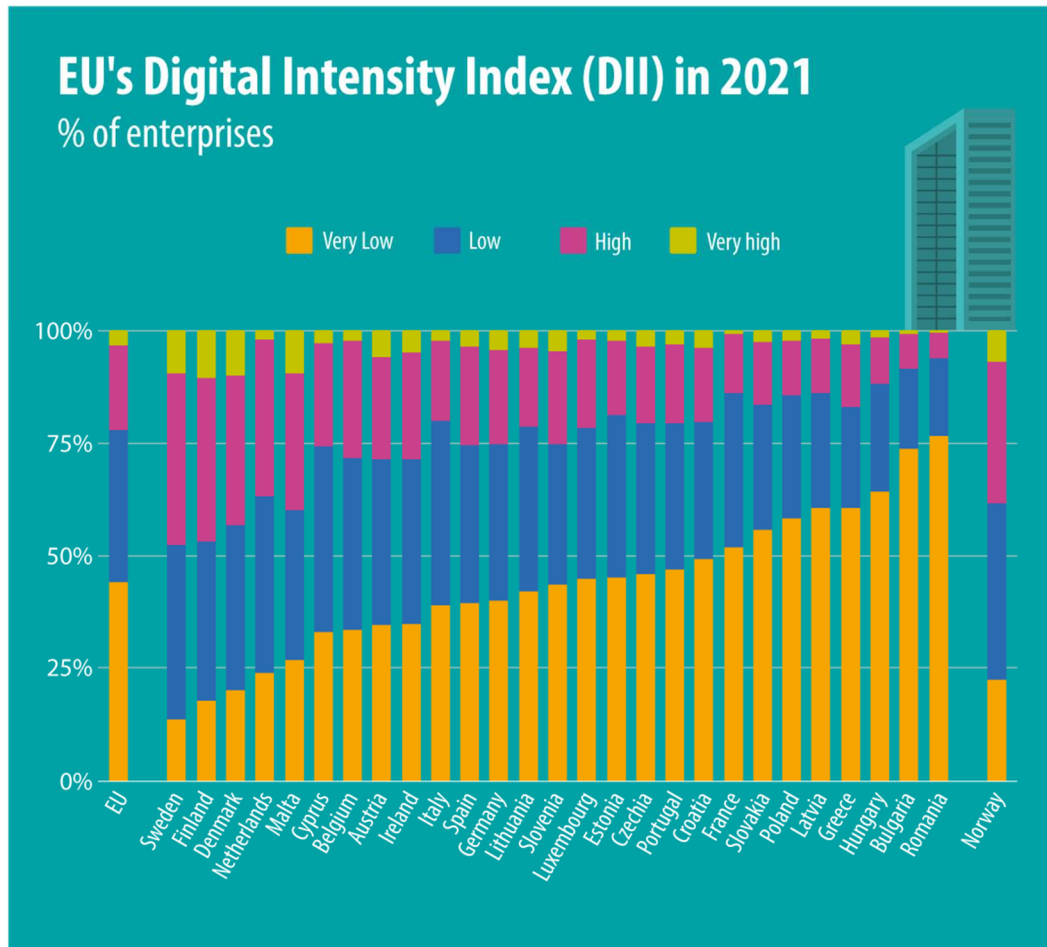
Austria offers a high-level social security system that is contribution-based, covering unemployment, health, pensions, education, and parental benefits among others. The Federal Ministry of Labor, Social Affairs, and Protection oversees this system. Importantly, the system supports everyone who is gainfully employed, as well as their dependents. As of 2020, employees pay 18.12% of their gross salary, while employers pay 21.32% of the gross salary as the employer contribution.

- *Anti-discrimination*

Notably, Austria has adopted anti-discrimination legislation to ensure equality as a cornerstone of its constitution. Additionally, criminal protection against hate crimes has become stronger over the past decade. Austria adopts the 1965 UN Convention on the Elimination of All Forms of Racial Discrimination. Essentially, the agreement put the onus on states to take concrete measures to combat discrimination based on color or ethnic origin.

The question remains as to how digitalization may affect any of the above rights. In comparison to other EU member states, Austria seems relatively well placed to adopt to the challenges ahead. In 2021, 56% of EU enterprises reached a basic level of digital intensity which means using at least four of twelve selected digital technologies (such as using any AI technology; having e-commerce sales account for at least 1% of total turnover; etc.). As we can see from

the following Digital Intensity Index from *Eurostat*, Austria was, as of 2021, in 8th position out of 27.



(Source: Eurostat)

5. Human Rights to Social Security

The issue of social security, or what exactly constitutes social security, changes from state to state and is, therefore, quite complicated in certain cases. What one government or constitution perceives as social security may vastly differ from another's perception. To begin with, we can look at Article 22 of the Universal Declaration of Human Rights (UDHR) which states:

Everyone, as a member of society, has the right to social security and is entitled to realization, through national effort and international co-operation and in accordance with the organization and resources of each State, of the economic,

social and cultural rights indispensable for his dignity and the free development of his personality.

The “organization” and “resources” of each State (as mentioned in the above article) is subject to enormous economic and political disparities, and so ensuring human rights to social security is not as simple as it sounds. Article 25 (1) of the UDHR picks up on the theme by adding that:

Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

Once again, what constitutes “necessary social services” could be interpreted differently from state to state, or could comprise of a list which is being continually updated. For example, many of the states which now recognize paternity leave as a necessary social service which is there to be availed of have only done so since very recently; while many more countries continue to this day fail to even acknowledge such a concept. In addition, the right to “security” in the event of unemployment can range from receiving a comparable or slightly reduced salary from the state until the individual finds alternative employment to receiving food stamps. This leads to the first question with regards to the rights to social security: how can such rights be regulated or evenly guaranteed? To answer this, we must first attempt to establish which rights social security encompasses. The Human Rights Office of the United Nations has stated that such rights exist so that an individual can access and maintain benefits to be protected from, among others:

- Unaffordable healthcare
- A lack of income due to illness, injury, maternity, retirement etc.
- A lack of family support in the case of dependents

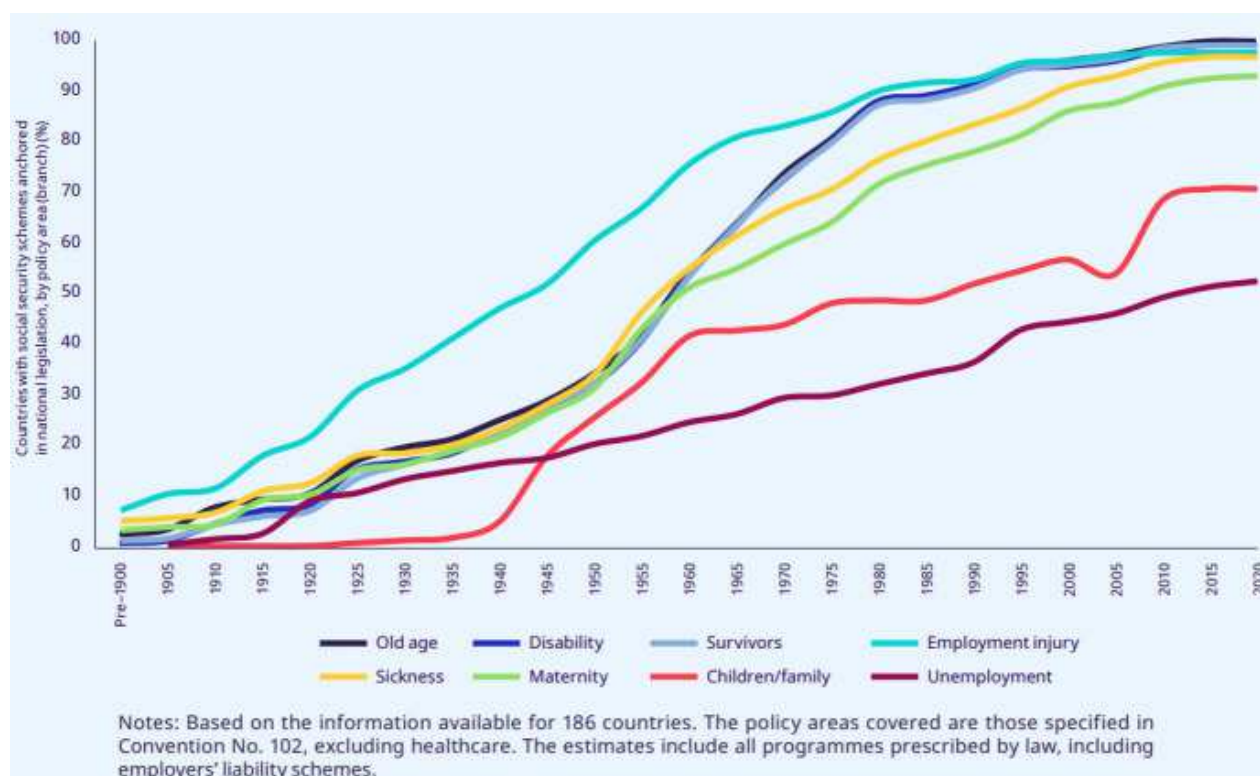
If we also factor in aspects of human rights which are to be upheld by the ICESCR, we can also add maternity, unemployment, old age, survivors and orphans as some of the principal branches (hrw.org). Furthermore, factor in a “standard of living adequate for the health and well-being of himself and of his family,” and cultural rights, and we can begin to realize the scope of the

issue at hand and how just one sweeping set of regulations would be insufficient in attempting to guarantee such rights. To add to the ambiguity, when we discuss social security in the United States, the term refers to the system of social insurance which both workers and employers pay into through their taxes. Therefore, in order to move forward with the concept which was written into the UDHR back in 1948, awareness needs to be raised as to what exactly is meant by social security while also bringing to the attention of different populations which securities they are entitled to.

5.1 Impact due to lack of regulations

It could be argued that the lack of regulation dates back to 1948 when articles 22 and 25 were initially included in the UDHR. The progress that was being made back then, it seems, was interrupted by the ensuing Cold War which made it difficult to ratify one single binding covenant on all human rights at an international level. As it happens, the right to social security is the shortest article (9) of the International Covenant on Economic, Social and Cultural Rights (ICESCR) which came into force in 1976 after being ratified by the required 35 states. However, the Committee on Economic, Social and Cultural Rights (CESCR), which monitors the activities of members of the treaty, took much longer to take article 9 into consideration.

The most obvious concern as far as protecting people's rights to social security is concerned is that a social security system needs to be in place in the country in the first place; and we have mentioned how each country's interpretation of what a social security system should include can lead to huge differences. For these reasons, regulating such a right is problematic and, as a result, we are left with varying degrees of protection across the world. For example, according to the 2020-2022 ILO Social Protection Report, unemployment benefits account for only 22% of the unemployed worldwide; disability benefits amount to 28% of those with severe disabilities; children enjoy effective access to social protection at only 35%; and maternity benefits amount to 41% of all women giving birth. (ILO). And although social security rights have been on the rise in the last century, divisions remain which need to be addressed.



(Source: ILO - Building the future of social protection for a human-centred world of work. International Labour Conference, 109th session. ILC.109/Report V)

The United Nations Human Rights Office of the High Commissioner published through the OHCHR an overview on the right to social security/social protection in which they acknowledged the need for more regulations which would require “regular monitoring of the adequacy of benefits and adjustment as necessary” (OHCHR). Furthermore, in February 2022, the United Nations General Assembly delivered a report published by the Human Rights Council on the *Question of the realization in all countries of economic, social and cultural rights* in which it highlighted the need for social protection to be “delivered through a framework that ensures transparency, participation and accountability in the design, implementation and monitoring of programmes aimed at reaching those most in need of support” (HRC, 2022).

The lack of regulation and international agreement on what rights take precedence over others has highlighted the need for financial resources of states to be adequately allocated to address the shortfalls in the social security system in each country. States could begin to take advantage of their finances in an equitable way if they begin with a system of taxation which is fair, and creating jobs which are then paid fairly and in line with the tax system. Additionally, it would require the establishment of a framework aligned with international social security

standards in order to secure the right to social security in a sustainable manner. Yet with the rise of AI, and the trend of replacing human jobs with machine, it begs the question of how sustainable social security systems are which rely on taxes from a working population.

Despite the above concerns, many governments are still focused on their existing frameworks and even digitizing and automating social security programs, which may prove to be more efficient in the long run when it comes to providing financial assistance, payments, registration, and applications for benefits, but it may also marginalize groups, such as the elderly, who have limited technological knowledge or access. For such groups, technology is counter-productive in that it prevents them from accessing benefits and exercising their rights. In this respect, the digital divide is something which needs to be addressed so as to ensure everyone has equal access to social security protections.

5.2. Impact because of a lack of transparency

In a World Social Protection Report from 2020-2022, the ILO discovered that approximately 4 billion around the world have no form of social security whatsoever. “[..] 47 per cent of the global population are effectively covered by at least one social protection benefit, while 4.1 billion people (53 per cent) obtain no income security at all from their national social protection system” (ILO, 2022).

It is difficult to imagine what a “national social protection system” actually does if such a large number of people remain without security. It is clear, however, that transparency (as well as accessibility) is badly needed in countries where 53% of the population are currently vulnerable under their present systems. Information needs to be freely available, easy to access and any benefits which are due to the population in the case of unemployment or maternity, for example, should be encouraged. It might be argued that the majority of the people who account for the 53% are completely unaware of any help which might be available, and therefore simply do not apply. Individual governments of these countries need to be held accountable for a lack of transparency and take steps to better communicate which rights their citizens are entitled to. In 2012, the ILO’s recommendation 202 (R202 - Social Protection Floors Recommendation, 2012 (No. 202)) called for “transparent, accountable and sound financial management and administration” (paragraph 3(j), ILO 2012). The report goes on to reiterate how transparency and accountability are intrinsically linked, and that governments need to do much more to raise awareness of what social security benefits might be available for citizens by providing “high-quality public services that enhance the delivery of social security systems” (paragraph 3(n),

ILO 2012). As it stands, a lack of transparency over social security not only affects the citizens of a given country, but also the economic arm of the governments who struggle to fill gaps in the labor market with skilled workers. For this reason, transparency and accountability should be legal obligations that governments should adhere to.

5.3 The dignity of human beings

A further concern which arises with the topic of digitizing and automating social security programs is the question of dignity. We have already looked at how AI could be responsible for bias and discrimination, therefore building national social security systems which utilize AI for steps such as applications or registrations could potentially limit or even deny access for some. In the case of technology denying individuals access to social security due to discrimination and bias, it would be a possible violation of articles 1, 2 and 3 of the UDHR. In addition, the EU Charter of Fundamental Rights states explicitly that “Human dignity is inviolable. It must be respected and protected.”

In the US, the use of the Allegheny Family Screening Tool (AFST), a predictive risk model deployed by the County Office of Children, Youth, and Families to forecast child abuse and neglect, has recently attracted criticism from the American Civil Liberties Union for how it only contains information about families who use public services, making it more effective at targeting poor residents. Education, housing, family, and work can also be negatively impacted by these discriminatory effects. The report by the ACLU argues that the use of such technologies which “give families no opportunity for recourse, perpetuate racial bias, and score people who may have disabilities as inherently “riskier” (ACLU), then we need to question whether such tools have a place in our society.

In May 2018, Amnesty International and Access Now published what they entitled *The Toronto Declaration: Protecting the Rights to Equality and Non-Discrimination in Machine Learning Systems* in which they raised the question of accountability when machines are found to be employing discriminative methods in decision-making processes. At the time of writing, the declaration has little power but it is a step forward in creating more discourse around human rights and the dignity of humans in the age of AI.

In their essay *AI vs Human Dignity: When Human Underperformance is Legally Required*, Groupe d'études géopolitiques puts forward the argument that human dignity is the fundamental basis on which many more human rights are built and, therefore, international law is also influenced by this guiding principle. The authors highlight how the word *dignity* is included in either the preamble or the articles of almost all international treaties, from the UN

Charter in 1945, to the UDHR a few years later, as well as the ILO's Employment Policy Convention in 1964. It seems, then, that the progress we have made as an international community since the 1940s in safeguarding human dignity is in danger of slowly unravelling in the face of artificial intelligence; that is, unless a framework is quickly established or AI developers agree to a series of strict international regulations as proposed, for example, in The Toronto Declaration.

6. Developments in Working Processes

This chapter will look at fundamental changes to our working processes, how these changes have either benefitted or disadvantaged us, and address the question of whether the inclusion of AI in such processes have and are likely to impact our human rights.

Changes in work processes have been constant, but for this comparison it is best we focus on the last fifty years. From the 1970s to the 1990s, technology was still playing quite a peripheral role insofar as it was there when we needed it, but the use of computers, word processors, mobile phones and the internet were either all in the background or things which were in their infancy. Documents existed in hard copy format, communication took place either face-to-face or over landlines, and there was much less emphasis on the idea of a workplace being a "team." In the last twenty years, technology has taken hold of the workplace and changed almost every aspect. The internet, for a start, has revolutionized the way we do business, creating the concept of online shopping which has led to hundreds of spin-offs such as alternative payment services like PayPal, web design and web hosting providers, secure transaction services, which in turn have led to faster transactions, bigger profits for companies who could suddenly reduce overheads, and pushing marketing opportunities into territories once unknown. Social media has allowed such companies to target their customers through data mining and collection, storing their "likes" and preferences and even selling such data to other companies who can then formulate their own marketing strategies. The rise of the internet also saw some jobs fade out as we were afforded much more control over our own choices. Travel agents slowly became less of a necessity as airlines switched to online booking forms; banks also began to play less of a role in our everyday lives as online banking took over; even the post office became less frequented as emails took the place of letters. More advanced camera functions on our phones, coupled with apps such as Photoshop, made people think twice about enlisting the services of professional photographers. The need for long, expensive business trips

also gradually faded as video calling became more commonplace, with companies such as Skype and, more recently, Microsoft Teams and Zoom, pushing into the market.

While it could be argued that many of the above-mentioned changes did not happen overnight, giving the general population time to adapt to one development before another was introduced, it could also be argued that the recent Covid-19 crisis has changed our workplace forever. We suddenly went from having technology at our disposal whenever it was needed, to being unable to function without it. As face-to-face businesses were forced to close, the only ones which were able to see out the crisis were those who existed online as well. Banks, restaurants, retailers, and educational facilities both found themselves having to cater to customers and clients in the digital sphere while also allowing staff to work remotely. And while the crisis has, for now, come and gone, the workplace that we were left with has changed. QR codes have replaced menus in some cases; drones are now capable of delivering goods to a customer; cash has also been banished in favor of card payments; self-check in is now a reality at airports and hotels alike – in short, human face-to-face contact is diminishing. This raises the question of whether we now need machines more than we need other humans, and if so, what is the future of work going to look like and what rights are likely to be impacted.

There are many predictions and scenarios for the future of work, some dystopian, others quite feasible; but what we can all agree on is that technology is here to stay and we need to prepare for the changes that it will inevitably bring. Some of the challenges that lie ahead could include:

- Automation: Although automation has been slowly developing since the industrial revolution, we are now seeing just how many jobs are in danger of being replaced by machines with the goal of cutting labor, production and energy costs to an absolute minimum, and generating the largest possible margins for the companies involved. The danger here is that automation could create such vast amounts of inequality that all the benefits of automation, cost savings and output, would be easily undone by the need for increased security, welfare payments, and quelling social unrest.
- Democratic Values: What we are seeing more and more is that only a few corporations continue to monopolize the global market, either buying out competitors before their ideas can take off or merging with the next biggest company to consolidate their influence; if this continues, governments could soon find themselves powerless to such wealth, and a shift in power of that magnitude would seriously undermine democracy and democratic decisions, signalling an end to the free market economy.

- Climate Change: On an environmental level, technological advances are leading to smart buildings, farmscrapers, living streets and a reduced number of commuters, significantly reducing fossil fuel consumption and, in turn, carbon emissions. However, there needs to be more transparency when it comes to how today's innovative companies (Tesla, Apple, HP, Sony, Samsung etc.) go about sourcing their energy needs. In 2017, the Business & Human Rights Resource Centre drew attention to an Amnesty International investigation which linked cobalt mined by children and adults in extremely hazardous conditions to the supply chains of some of the world's largest carmakers. The production of lithium batteries, made of nickel and graphite also come with environmental and health costs. In short, the phasing out of fossil fuels is essential, but the new players in the technology market also need to abide by ethical and environmental standards, "and take steps to ensure that their role in the energy revolution is truly clean and fair" (Business & Human Rights Resource Centre, 2017).
- Digital Natives vs. Digital Immigrants: There are those of us who were born into the digital age (natives), and then there are some of us who had to learn to adapt to the changes that technology has brought about (immigrants). As mentioned earlier in this paper, it is the latter group which we need to be concerned about as more and more companies and working practices make the digital switch. A digital native who loses their job is in a significantly better position to re-enter the workforce than a digital immigrant. This is causing and will continue to cause issues insofar as the "right to work" is concerned. We also need to ensure that adequate training and education is not just centered around cities, but also extends to rural areas, too.
- Misinformation: The spread of misinformation has been nothing short of spectacular. With easier to access internet connections, not to mention faster connections, as well as a whole host of apps such as Deepfake technology, it is getting harder and harder for the general public to discern which information is accurate and which is being weaponized to gain a political or economical advantage. Public opinion is often swayed this way, and companies now and in the future could easily see their reputations sabotaged online, or their stock value influenced by a tweet, resulting in job losses and lack of consumer trust.

On the plus side, machines have the potential to benefit our work-life balance by offering more flexibility, while at the same time improving safety standards and mitigating risks. Technology, in general, has been introduced into our lives under the guise of "making life easier" for us.

Whether it is truly a gift and a logical progression or a Trojan horse which strips us of some of our fundamental rights remains to be seen.

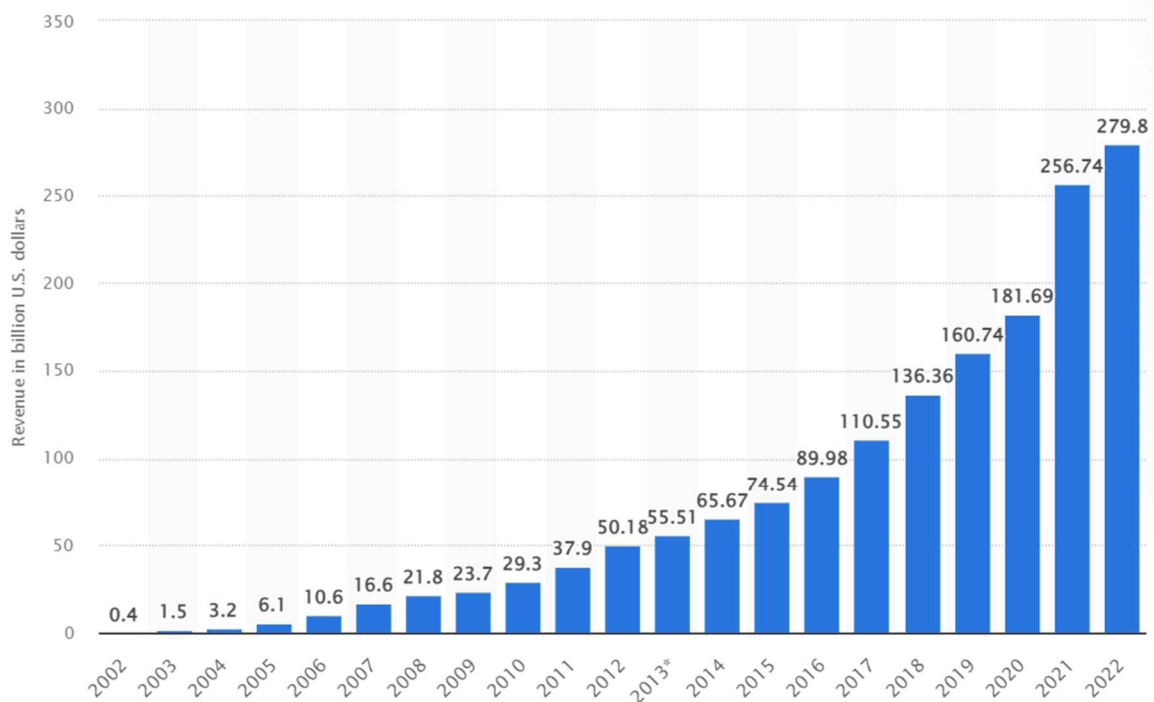
6.1 The use of algorithms

In simple terms, an algorithm is a step-by-step procedure for doing something. For example, a recipe is a simple algorithm because it follows instructions, and because the steps are finite, it solves a problem. In recent decades, algorithms have evolved enormously. Since computers were introduced, we can now use algorithms in ways we could never have imagined before, and this largely stems from the fact that vast amounts of data are now readily available for use, as opposed to earlier years when data was collected only when needed. This has allowed algorithms to become more and more sophisticated, enabling machines to perform in milliseconds tasks that twenty years ago would have taken days or weeks.

There are hundreds, perhaps thousands, of examples of algorithms in use in our everyday lives – some that we probably pay no attention to, such as traffic lights or bus schedules, both of which use data based on previous volumes of traffic to alternate between signals or calculate the time needed to commute, and other examples which are drawing on a trove of data to give us answers. The best examples of the latter would be Google and the GPS.

The rise of Google has been meteoric. Not only has Google become an indispensable tool in our daily lives, it has also made itself comfortable in our language. The verb “to Google” something is as common nowadays as “to search for” something, but twenty years ago if you had answered the question as to how you found a restaurant with “I Googled it,” you would have been met with confused looks. This goes to show how quickly Google has expanded and enhanced its search engine capabilities in a relatively short space of time.

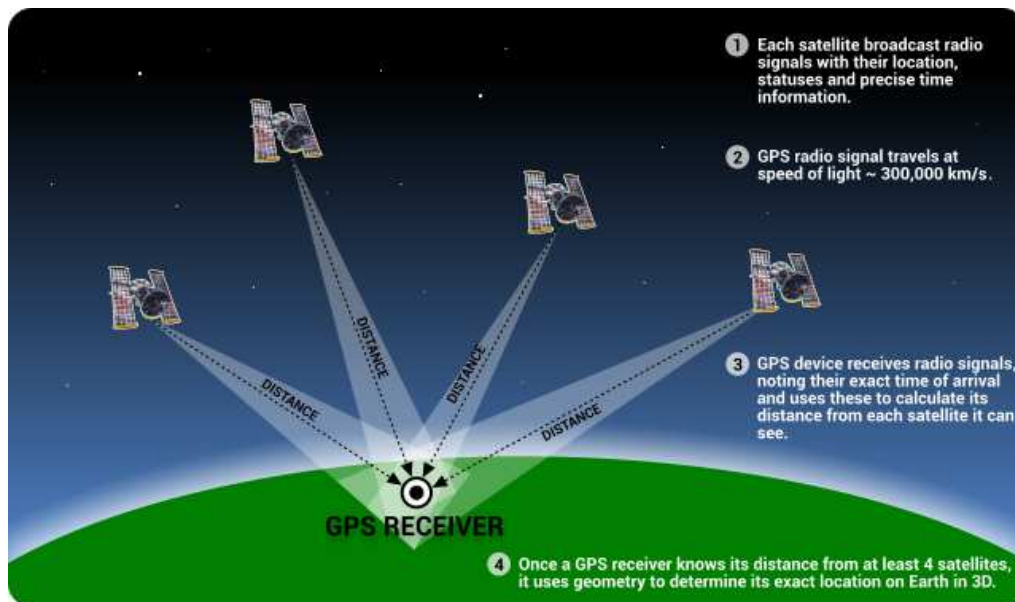
Annual revenue of Google from 2002 to 2022 (in billion U.S. dollars):



(Source: Statista 2023)

The algorithms which Google use are quite complex but are based on the same principles of all algorithms in that they employ a set of rules with a specific task and a finite number of steps. For Google, these rules involve retrieving data from web pages, attempting to understand what searchers are looking for, and then ranking or presenting the web pages according to relevance and quality.

The GPS, or Global Positioning System, is also a tool which we now use almost daily. Most new cars nowadays come with touch screen navigation systems so we can see in advance any traffic congestion and calculate the fastest route between two points. Google maps also allows this function on our smartphones, calculating distances with variables such as driving, walking, cycling, or using public transportation. We can also watch our Uber driver approach our location in real time on a map. The GPS in the car or phone, picks up radio signals from the closest 4 from dozens of satellites which are orbiting the earth. These 4 satellites then triangulate the position of the receiver's distance by calculating the distance from each satellite.



(Source: Geneko)

The fact that your handheld device, be it a smartphone or a tablet etc., is constantly receiving radio signals from orbiting satellites, it means that you are effectively traceable at all times. Both Google and many other apps use location services to make it more convenient for you. For example, Google's algorithms will filter your search results based on your geographical location. If you are in Valencia searching for a "hairstylist who speaks English," then Google will not show you results for other countries or cities, but tailor its results to your location. Obviously, using a GPS or any kind of app which requires the use of a map will automatically pinpoint your exact location. We now begin to understand the privacy concerns and the amount of information that can be derived from analyzing an individual's movements. For example, during the Covid-19 pandemic, contact tracing technologies were deployed to reduce the spread of the virus, relying on GPS technology to track and trace individuals and alert them to the possibility that they had been in contact with someone who had recently tested positive. In essence, this was a huge surveillance program which was given the green light in the name of science. But there are now concerns that such technology may be taken too far and continued despite the pandemic being over. "Excessively compromising privacy is a gateway to undermining other rights, such as freedom of movement, expression, and association" (Human Rights Watch, 2020). With regards to possible violations of rights, we can refer to, among others:

- Article 8 of the ECHR: Right to respect for private and family life, home and correspondence.

- Article 17 of the ICCPR: “No one shall be subjected to arbitrary or unlawful interference with his privacy, family, home or correspondence, nor to unlawful attacks on his honour and reputation.”
- Article 12 of the UDHR: “No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation.”
- Article 13 of the UDHR: “Everyone has the right to freedom of movement and residence within the borders of each state.”
- Article 20 of the UDHR: “Everyone has the right to freedom of peaceful assembly and association.”
- The Fourth Amendment of the US Constitution: “The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated [...]”

Essentially, our relationship with technology is, for the most part, unconscious – we click “accept cookies” without quite realizing what it means. We allow apps such as maps or parking apps to use our location without realizing what data we are sharing. But these machines are far more sophisticated than our ability to fully appreciate their effects and we are, naively perhaps, allowing for algorithms to simultaneously make our lives easier and impinge on our human rights.

6.2 Algorithmic Bias and Discrimination

Back in 2013, the notion that technology and the data collected were providing results which were biased and discriminatory was already something which we were being warned about. In an article in the Harvard Business Review, Kate Crawford, a principal researcher at Microsoft Research, pointed out that large amounts of data are not as objective as we think. “We give numbers their voice, draw inferences from them, and define their meaning through our interpretations” (Crawford, 2013). The problem, as she sees it, is that biases are present in the collection and in the analysis, since much of the data collected does not evenly reflect the population as a whole. In a simple example, she cites the problem of using mobile phones to report problems with city streets in Boston. The data collected revealed the density of smartphone users rather than the streets with surface issues since poorer populations were less likely to have access to smartphone technology (HBR).

Five years later, in 2018, authors Olhede and Wolfe published a paper entitled *The growing ubiquity of algorithms in society: implications, impacts and innovations* (National Library of Medicine) in which they expanded on Crawford's caveat, suggesting that algorithms can never be truly objective. Protecting privacy, they argue, will impact fairness: "if some attributes are removed from analysis, it is possible that no algorithm can ensure fairness if the data have correlations between protected attributes and the information that has been removed from the analysis" (Olhede, Wolfe, 2018).

In some countries, however, privacy concerns have been swept under the rug in the name of "security." Facial recognition technology to some may be a convenient tool for unlocking your smartphone or logging into your online bank account, but again we need to ask the question of where is this data being stored? Is our biometric data being sold or traded? And what can another party do with such information?

In China in 2018, *People's Daily* claimed on English-language Twitter that the country's facial recognition system, Skynet, was capable of scanning the faces of its 1.4 billion citizens in just one second, ostensibly to "help police crack down on criminals and improve security" (Twitter). There are growing fears, though, that such software is being used to profile and detain its minority groups such as Uighurs. In 2021, IPVIM, a video surveillance research firm, discovered patents registered by Chinese technology firms for surveillance tools which can detect, track and monitor individuals, targeting them by ethnicity (Reuters). The Los Angeles Times also picked up on the same story, naming the China-based Dahua as the firm behind the technology. The article also reports how such technology is designed to alert police when it identifies Uighurs (LA Times). While this debate on racial profiling and algorithmic bias is, on current evidence, quite alarming, similar developments in the west are, perhaps, slipping under the radar.

We have employed AI systems in many sectors of business, from scanning resumes uploaded online for keywords to predictive policing where certain areas are calculated to pose a higher tendency to crime and are therefore in need of a heavier police presence. However, as we have already mentioned, the data sets that such AI draws on are often biased do not offer an accurate picture of the wider population as a whole. In 2023, the Wall Street Journal reported that "AI systems have been found to be less accurate at identifying the faces of dark-skinned people, particularly women; to give women lower credit-card limits than their husbands; and to be more likely to incorrectly predict that Black defendants will commit future crimes than whites" (WSJ, 2023).

Many of the world's top firms have claimed that they are investing time and money into reducing bias in the technology they are now using, but what constitutes bias or discrimination to one engineer may seem acceptable to the next. In short, eliminating bias from algorithms is going to be an uphill task so long as algorithms are programmed by humans who may not be fully aware of their own biases.

7. Necessary changes in (working) society

The following chapter provides a subjective account on what changes could be argued as being necessary if we are to assume that:

1. Artificial intelligence is here to stay
2. Businesses around the world will have no choice but to adapt and become acclimatized to new technologies
3. The impact of artificial intelligence is going to infringe on a number of different human rights enshrined in various international treaties.

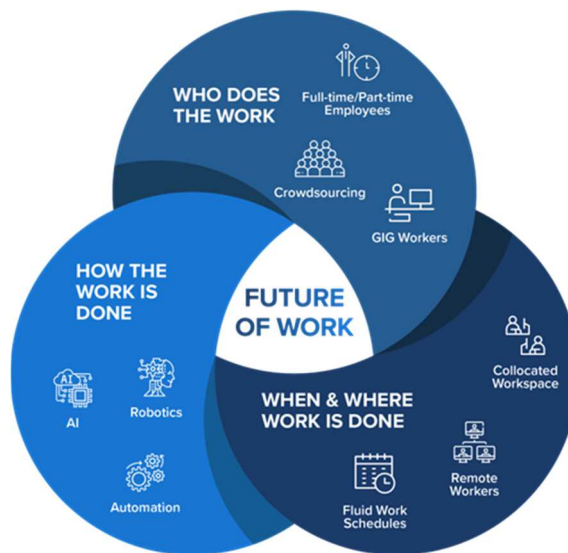
To begin with though, it might be beneficial to reassess the role of managers and leaders and identify attributes, as well as changing patterns that have come about as a direct result of technology. For example, in the traditional style of business a manager is responsible for overseeing a structure and exercising control over the employees. Employees follow guidelines, adhere to company policies and report to their manager on a frequent basis. Many could now argue that this way of doing business, even though it still very much exists, is becoming antiquated, and companies of the future will need to employ leaders rather than managers. Technological advances, in some cases accelerated by the recent pandemic, have given workforces more autonomy, necessitating “home office” days, hybrid teams, virtual meetings, online inventories and transactions, as well as flexible working conditions to name a few. Therefore, the role of the traditional manager has changed to that of a leader: one who instils a sense of trust, delegates, shows empathy and leads more than manages. Quantic (“The Business School of the Future”) lists the following as the most important skills that every leader in the future will have to adopt:

- Coaching
- Innovativeness
- Adaptability
- Cognitive flexibility
- Collaboration
- Emotional intelligence
- Negotiation
- Project planning
- Strategic thinking
- Strong analytical skills
- Resilience
- Agility
- Vision

(Source: Quantic, 2022)

The Harvard Business Review (HBR) in its article *6 Leadership Paradoxes for the Post-Pandemic Era* includes the concept of the “Humble Hero” as one of its six leadership paradoxes for the future, emphasizing the need “[...] to acknowledge what they don’t know and to bring on board people with potentially very different skills, backgrounds, and capabilities. They need to be willing to learn from others who may have less leadership tenure, but more relevant insights” (HBR, 2021). As the bigger picture unfolds, listening skills are going to become increasingly important, allowing for as much input as possible. With technology and big data becoming progressively important in our daily lives, leaders are going to have to strike a balance between maintaining control of these developments and empowering workers to adopt innovations without having to justify every decision they make. Essentially, the role of the leader is to ensure that everyone is aware of what technology's role is in the company, and that every employee feels confident and comfortable with its changes.

The future of work was changing even before COVID-19 disrupted the status quo. As the effects of the crisis fade, three broad trends will continue to impact work: how the work is done, who does the work, and where and when work is done (SHRM).



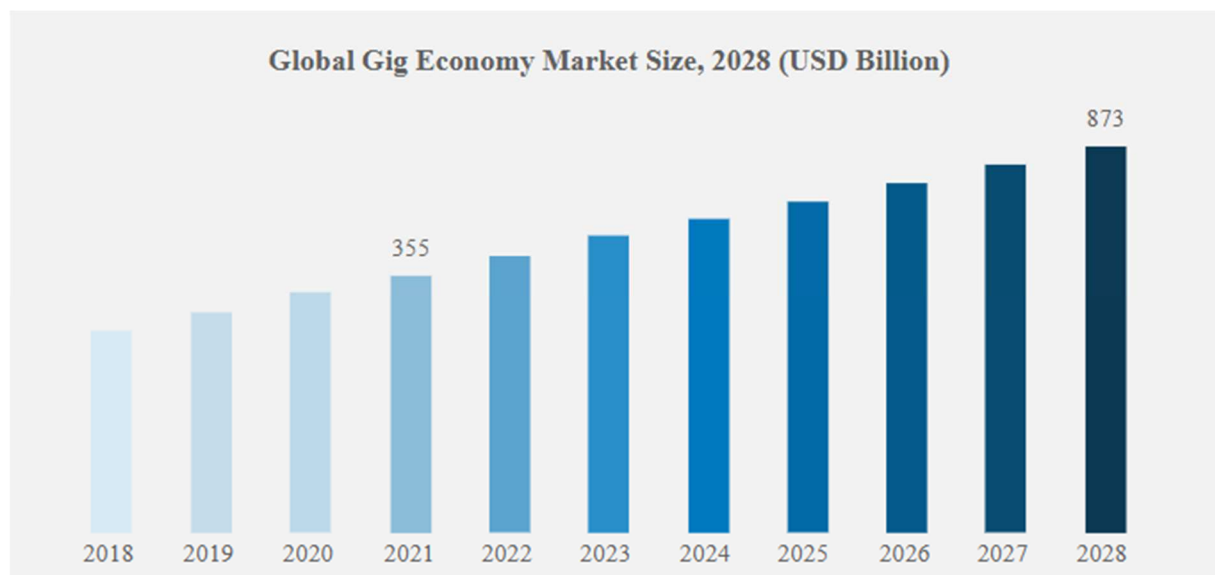
(Source: SHRM)

In a report from January, 2023, McKinsey & Company noted that one in 16 workers may have to switch occupations by 2030. This echoes the findings from an earlier report from SHRM and Willis Towers Watson which noted that "85 percent of jobs that will exist in 2030 have not been invented yet" (SHRM, 2020). McKinsey also noted, however, that as one job sector disappears, another one is likely to take off. For example, e-commerce, which saw a fivefold increase during the pandemic years, has created a demand for warehouse workers, web technicians, web designers and payment services. Further, it was mentioned that an aging population will increase the demand for nurses, home health aides, and hearing-aid technicians. Other occupations, such as teachers and training instructors, will also be in demand (McKinsey).

With reference to the above point, training is going to become vital to the future of the workplace, as it is now a given that AI and new technologies are going to continue to affect the way we work. Augmenting human talent, rather than replacing it, could be the key to resolving the issue of technology implementation. Many companies around the world are now operating in the transition period – that is to say, we are firmly in the phase where machines are being deployed more and more to undertake tasks previously done by humans, but we are not yet ready to rely on machines for jobs which we collectively trust or prefer humans to be in control of. For instance, pilots, taxi drivers, teachers, actors, doctors, and artists are just some of the many jobs which AI is now muscling in on. Yet, at the time of writing, it could be argued that, given the vote, we would prefer a human to perform these jobs over AI. The challenge insofar as changes in the workplace go will be to incorporate machines in such a way that human performance is enhanced and not disposed of, and to do this requires investment in training.

It also seems for now that remote work is here to stay. If anything, the pandemic proved that the work could still get done regardless of location and many companies saw technology as an opportunity to lower overheads such as office space. Remote working not only reduces the rent for many companies, it also reduces energy bills in offices and saves employees money on transportation costs. Employers, though, will also need to compensate employees for energy bills incurred in their home offices, while at the same time trying to ensure that remote employees do not become disengaged as a result of reduced social contact. The Society for Human Resource Management (SHRM) has found 65 percent of employers are having difficulty maintaining morale and more than one-third are having difficulty with company culture and worker productivity (SHRM).

Increased remote working is going to necessitate greater flexibility. The workforce of today have become accustomed to working under their own conditions, and while companies such as Tesla have raised eyebrows by insisting employees return to the office, most companies have realized that in order to retain staff, they will have to make a lot of compromises along the way. Increased remote working is also likely to see a rise in what we now call gig workers – temporary workers or independent contractors on temporary contracts or working freelance. As a result, we now commonly use the phrase “gig economy” to refer to a labor market which relies on independent contractors to provide services. Many have begun working in this field alongside regular jobs, providing their services as online workers, on-call workers, or freelancers. Uber is an example of a company which relies heavily on gig workers; so much so that it has spent millions of dollars in the last years lobbying for legislation which classifies drivers as contractors, so as to avoid paying protections like a minimum wage and unemployment benefits (NY Times). According to data compiled by the IRS (Inland Revenue), in the United States, the number of gig workers tripled between 2017 and 2021, and gig workers now account for almost 17% of the US workforce, with almost 50% of this number holding fulltime positions as well (Finmasters).



(Source: Business Research Insights)

As the gig economy is projected to increase rapidly, it will inevitably reshape the way in which we think about the world of work, disrupting existing models and challenging workers' rights enshrined in international treaties. Therefore, the future of the workplace is going to require many necessary changes. For example, are the rights and protections that workers receive in the workplace also applicable to remote workers? In addition, if the gig economy continues to expand like it is, is it safe to assume that we need to offer protections such as unemployment benefits, paid leave, insurance etc. to a such a vital part of our economy?

The rules by which we currently abide are in danger of becoming lost in the past as technology upends and reshapes our working methods. For this reason, it is time to seriously reevaluate and update our rights and protections. If we take remote working as our prime example, we have the problem of privacy. In 2021, Forbes reported that more and more companies were “investing in technology designed to monitor and track the behavior of their employees in order to drive efficiency” (Forbes, 2021), monitoring emails, bathroom breaks, movement of staff around office blocks and time spent talking to co-workers among other areas under surveillance. This calls into question article 12 of the UDHR, especially if such information is used to discriminate or unfairly judge employees who could have very good reasons for there actions.

With reference to gig workers, we need to ensure that article 23 of the UDHR is not being swept under the rug:

1. Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment.

2. Everyone, without any discrimination, has the right to equal pay for equal work.
3. Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity, and supplemented, if necessary, by other means of social protection.
4. Everyone has the right to form and to join trade unions for the protection of his interests.

As it stands, it is safe to say that in the case of gig workers that the above four conditions of article 23 are not all being fulfilled, and in many cases none of the four conditions are being fulfilled. Therefore, these changes need to be addressed quickly as the gig economy expands. If we fail to do this, some countries are on course to have a quarter of their labor force with no rights.

This, in turn, leads to article 24 of the UDHR: the right to leisure and rest. If everyone has the right to leisure and rest, and there is to be a “reasonable limitation of working hours and periodic holidays with pay,” then we need to hold companies such as Uber accountable for their employees. We can begin by questioning safety standards. How can we control whether a gig worker is able to perform a job safely and accurately if they have not rested that day, had adequate time off or have devoted the bulk of their day to another position? Unfortunately, the more we look into such matters, the more we realize that we are left with far more questions than we are with answers. Consequently, it can be argued that the gig economy needs to be regulated quickly, and independent contractors need to be afforded the same rights as those employed in fulltime positions.

A lot has been said in the past about raising the retirement age in order to ease the pension crisis in many countries. Some countries have aging populations and soon the number of retirees will outnumber those who are working. This will create huge challenges for the economy and the social system. But is raising the age of retirement by five years the solution? And what then for gig workers who currently have no employer-sponsored retirement plans? Are we effectively creating a workplace which sacrifices security for more flexibility?

The *Future of Jobs Report* published by the World Economic Forum in 2020, draws attention again to the need for education, and how governments must coordinate “between education providers, skills, workers and employers, and ensuring effective collaboration between employment agencies, regional governments and national governments” (WEF, 2020, p49). Regardless of whether automation and augmentation of human labour affect current

employment numbers, the most important question for businesses, governments and individuals is how the global labour market can be supported toward a new equilibrium in the division of labour between humans, robots and algorithms under what conditions (WEF).

8. Impact on tax-system

This paper has so far argued that unregulated advances in AI will have a profound impact on our everyday lives, the ways in which we conduct business, and on some of our fundamental human rights which are to be found in several international treaties. In terms of work and employment, we can once again reference the following articles and treaties:

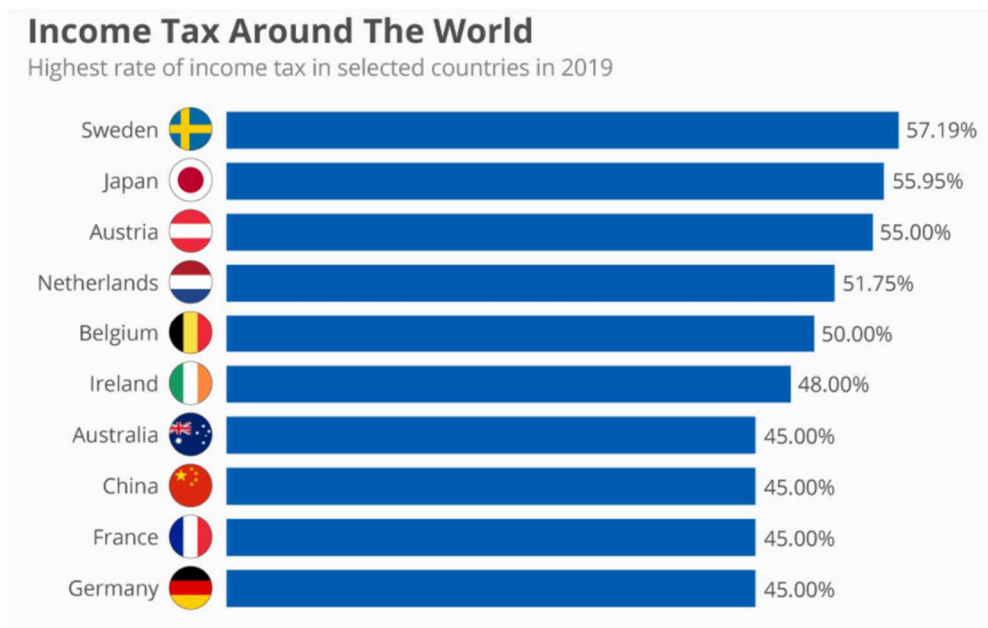
- Article 22, UDHR: “Society should help individuals to freely develop and make the most of all advantages offered in their country.”
- Article 23, UDHR: “Everyone has the right to work in just and favourable conditions and be free to choose your work with a salary that allows you to live and support family. Everyone should receive equal pay for equal work.”
- Article 25, UDHR: “You have the right to have what you need so that you and your family do not go hungry, homeless or fall ill.”
- Article 6, ICESR: The right to work, and to realize this right, “technical and vocational guidance and training programmes, policies and techniques to achieve steady economic, social and cultural development and full and productive employment under conditions safeguarding fundamental political and economic freedoms to the individual.”
- Article 7, ICESR: “[...] the right of everyone to the enjoyment of just and favourable conditions of work” – including decent and fair wages, safe and healthy conditions, equal opportunities, and rest and leisure time.
- Article 9, ICESR: “The States Parties to the present Covenant recognize the right of everyone to social security, including social insurance.”
- Article 10 (3), ICESR: “[...] Children and young persons should be protected from economic and social exploitation. Their employment in work harmful to their morals or health or dangerous to life or likely to hamper their normal development should be punishable by law. States should also set age limits below which the paid employment of child labour should be prohibited and punishable by law.”
- Article 31, CFR: Fair and just working conditions.

- Article 34, CFR: Social security and social assistance, in the case of “maternity, illness, industrial accidents, dependency or old age, and in the case of loss of employment.”
- Protocol No. 12, ECHR article 1.1 and 1.2: General prohibition of discrimination “[...] on any ground such as sex, race, colour, language, religion, political or other opinion, national or social origin, association with a national minority, property, birth or other status.” And “No one shall be discriminated against by any public authority on any ground such as those mentioned in paragraph 1.”

As we have seen, Artificial Intelligence has greyed many of the above areas as it continues to reshape our working world. Whether we are addressing privacy concerns presented by data mining and sharing, analyzing the impact of jobs lost to machines, counting the costs of social security payments to displaced workers, or voicing concerns over the expansion of the gig economy and its repercussions owing to the absence of protection for workers, we must do so with the above-mentioned articles and treaties central to international discourse. Member states who were party to the agreements, signing and ratifying, must uphold the rights and protections which are stated. However, the cost of preserving these rights is borne through taxes. And here is where we encounter a paradox: if AI continues (as predicted) to causes job losses, this will inevitably lead to lower tax revenues – so, how can we maintain a system of taxes capable of preserving the above-mentioned rights?

8.1 Necessaries of changes to tax system

As a vital cog in our human development and progress, labor should not be burdened or punished with taxes. At the same time, technical development should not be hindered or stopped. Yet, in our current system, the more we work, the more we are taxed. One could argue that this does little to incentivize a workforce. The OECD average income tax rate is 41.65% (Statista).



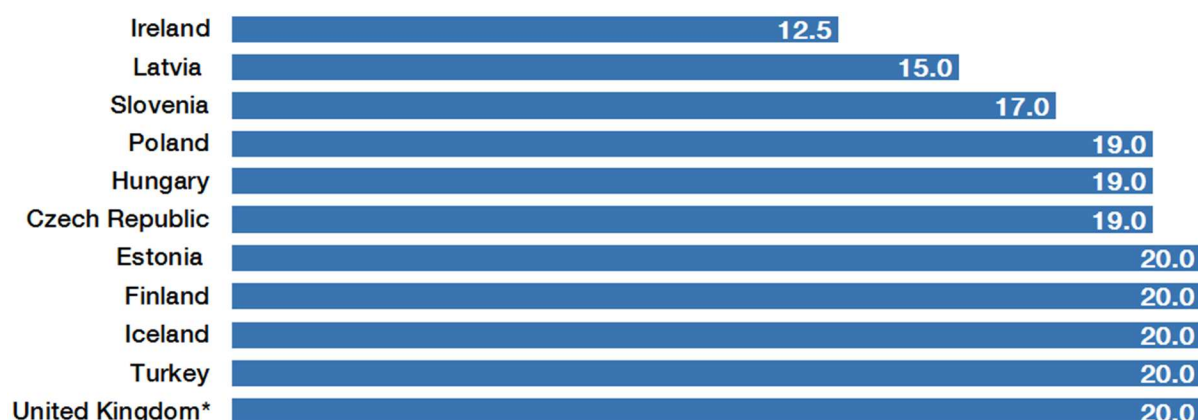
(Source: Statista)

In addition, different countries have different tax rates depending on income brackets, and also different corporate tax rates. To add to this, some countries have no income tax whatsoever. Countries such as Qatar, Bahrain, Oman and the UAE use oil and gas revenues to support their governments and citizens, so there is no need for income tax. Similarly, smaller countries such as the Bahamas and the Maldives do the same but with revenue created from tourism. In short, there are such disparities over who has to pay what and where, tax avoidance and tax evasion are major challenges for countries who see their national companies headquartered somewhere else, or manufacturing facilities opening up on the other side of the world, and wealthy entrepreneurs relocate to smaller tax-free nations such as Monaco or St Kitts and Nevis.

In terms of corporate tax rates, every startup and multinational is looking to set up operations in countries that offer the lowest rates so they can maximize profits. On the one hand, governments and citizens of such countries benefit from the creation of jobs when corporations such as Apple, Microsoft or Pfizer move in, but, in the long run the country loses out on taxable revenue (as the profits generated rarely stay in the country). Furthermore, if a country is a member of a larger bloc, such as the European Union or the OECD, any arrangements with international corporations need to comply with the laws of the bloc. An example of such recently came to light when the European Union ordered Apple to pay almost \$15 billion in back taxes to the Republic of Ireland. The Court of Justice of the European Union (ECJ) opened the case when it was alleged that Apple had received illegal state aid, but as no preferential treatment could be established, following appeals by both Apple and successive Irish governments, the case, for now remains under the spotlight (The Irish Times).

These countries have the lowest levels of corporation tax

Combined corporate income tax rate for OECD countries, 2016



(Source: OECD)

A 2021 report by the Institute on Taxation and Economic Policy (ITEP) revealed that at least 55 of the largest corporations in the United States paid no federal corporate income taxes in the previous fiscal year, despite the federal tax rate for corporate profits being 21%. Corporations are able to take advantage of loopholes in the system such as writing off stock-option related expenses for tax purposes, writing off capital investments, exploiting renewable energy tax breaks, or using the CARES Act (which was brought in during the Covid-19 crisis to prevent businesses from going under) to “carry back losses to offset profits”, in some cases as far as five years back, effectively reducing 2020 taxes to less than nothing (ITEP). In short, a corporation does not always have to move abroad or “off-shore” in order to avoid paying tax when the laws at home are lenient and flexible.

From the above examples, we can conclude that although tax revenues are vital for our economies, especially those who are not blessed with vast amounts of natural resources, there are, unfortunately, many flaws in the current national systems which create an uneven playing field. Therefore, re-evaluating the tax systems could be equally as important as regulating AI in terms of the future of our working world.

8.2 Proposals of changes

More often than not, the threat of taxation, or of higher taxation, is not taken too kindly by the individuals or the corporations involved, and there are a number of counter-arguments that have long been put forward when defending tax breaks on multinationals or the wealthy. It could be argued that the Irish government are afraid to lose the many multinationals which have set up a headquarters on the island by bringing their tax rate in line with the rest of the EU. Simply put, if Apple et al. decided to leave, the Irish government would be left footing the bill of the unemployment costs when thousands of workers file for benefits. We have heard similar arguments about increasing the taxes on the wealthy – they are the entrepreneurs, the job creators; taxing them would be seen as a punishment for being successful and such a move would discourage entrepreneurship. This begs the question, however, of how we continue to support our social systems and preserve the many human rights protections across various treaties?

One proposal, which may seem radical, is the abolition of wage and income tax. As already mentioned, our current systems punish labor with taxes, which, as we have also seen, is causing businesses to relocate, local economies to suffer, and wealthy, larger, businesses to exploit loopholes in the tax systems. Consequently, states are losing money year after year. In the United States in 2020, \$12 billion was effectively taken out of the economy due to just 55 companies exploiting rebates, takes breaks and tax avoidance strategies which were all completely legal (ITEP).

The proposal of abolishing income tax, and possibly corporate tax, would eliminate the above-mentioned problems, but also leave us with the question of how to make up the deficit. For this, there are two viable solutions:

1. Introduce a transaction tax, and VAT, on all monetary payments and movement of money. The more we incorporate machines, technology, and AI into our lives, the more our money will become digital. Faster online payment options (such as Apple Pay, Wise, Revolut, and PayPal) have made such transactions more attractive in the public sector, while larger companies still use wire transfers to move money around the world. Taxing all transactions will eliminate the need for income tax.
2. Introduce an unconditional basic income with simultaneous reduction of administrative and control measures, and numerous criminal and civil legal proceedings which incur considerable costs with little or no benefits of society as a whole.

Under our current taxation systems, we are in danger of losing revenue, firstly as wealthy corporations consolidate their power through strategic mergers, hostile takeovers and off-shoring, and secondly, as AI moves into the human sphere and replaces more jobs than it creates. For these reasons, changes are necessary, and the sooner the better.

9. Conclusion

The three pillars of the United Nations are, according to the UN, peace and security, development, and human rights.

This thesis has looked at how the rapid development of artificial intelligence has affected and is continuing to affect the three above-mentioned interconnected pillars. On the one hand, it is without doubt that AI has many benefits, which, if regulated and exercised responsibly, could improve education, health, and security of billions of people worldwide. On the other hand, if AI is not urgently regulated, it also has the potential to cause widespread harm. We are already quite familiar with the term “cyberattacks” and how criminal organizations could use such AI to destabilize infrastructures, steal sensitive data, and damage financial institutions. But these examples are the most obvious, and most dramatic examples which fill our newsfeed. Perhaps, what we do not realize, is that AI also has further negative ramifications which have, until now, slipped quietly under the radar. Examples this thesis has looked at include bias, discrimination, and authoritarian surveillance. In July, 2023, Secretary General of the United Nations, Antonio Guterres, addressed the UN Security Council, calling for urgent action so as to protect the three pillars of peace and security, human rights and development. He warned how generative AI could be “a defining moment for disinformation and hate speech – undermining truth, facts, and safety; adding a new dimension to the manipulation of human behaviour; and contributing to polarization and instability on a vast scale” (Guterres, 2023). He also questioned how prepared the world was for AI which malfunctions while interacting with nuclear weapons and biotechnology. In short, his address underlined the many dangers and uncharted territory that technology is leading us into.

This thesis looked at the recent and present developments in order to predict which human rights are likely to be impacted in the future. The results are far-reaching. We have found that AI has steadily crept into our lives on a continual basis to the extent that we will soon be unable to imagine a world without it. A car without a navigation system, a television without streaming

services, a phone without facial recognition technology to unlock passwords, a retailer with no online store, or simply finding any information without the help of Google are just some of the many aspects of our present lives which many digital natives would struggle to adapt to. And because many of the aspects we just mentioned are so deeply-rooted in our lives, it is inevitable that many of the human rights which are enshrined in various international treaties are also being put under the microscope. This thesis looked at how changes to the working society as a result of machines and AI is likely to affect many of our current fundamental rights, such as article 23 of the UDHR (Right to work) as well as article 24 (Right to leisure and rest). The question of privacy was also raised since many of the current AI tools rely on vast amounts of data through which algorithms are developed and used, and in many cases, used in discriminatory and biased practices, calling into question article 12 of the UDHR (Right to privacy).

A further question which was raised related to social security and article 22 of the UDHR. There is a collective fear that machines will continue to replace humans in the workforce, and although there have been some reports that AI will only augment but not replace humans, this thesis has found that the social systems of individual countries are simply not prepared for the worst-case scenarios: providing unemployment benefits in the case of jobs lost to AI, providing training and education to those who are expected to integrate and work alongside new technologies, or simply addressing the digital divide to ensure that digital immigrants are still able to access and exercise their rights.

Another major area of concern was the use of generative AI such as ChatGPT and its implications on copyright law, privacy law and freedom of speech. Article 19 of the UDHR (Freedom of expression) could also be called into question since generative AI relies on billions of images and texts as training data which poses the risk of AI presenting opinions as facts, or generating false, misleading, or discriminatory content. In a world which is already awash with fake news, and conspiracy theories being presented as facts, adding to the mix the prospect of even more powerful tool which blur the lines between truth and fantasy will undoubtedly lead to divides between what is judged as freedom of speech or expression. In turn, we are then faced with the question of accountability: who is responsible for any damages, physical or mental, caused by false or misleading information generated by AI?

The takeaway from this analysis of AI and the human rights which it is likely to impact is that we are at an international impasse in the following areas:

- Regulation and policies: while the EU is making progress in ratifying and passing laws to restrict the development and use of AI, the United States is a long way off, focusing instead on fostering an environment of innovation, placing economics over human rights and safety. China, for the most part, has been left to its own devices, ramping up national surveillance programs and the use of facial recognition technology.
- Data and Programming: the business of data mining and data sharing has come under scrutiny in recent years following a number of revelations about how much data we share and to what extent our own governments are mining and using our data. From Edward Snowden's disclosures on the NSA, or the Cambridge Analytica collection of Facebook data, to the Pegasus spyware scandal, it has become abundantly clear to the general public that data is now a valuable commodity. And programming AI using such vast troves of data needs to be done in a controlled and fair way, with the goal of avoiding bias and discriminatory practices. The issue at hand, though, is that humans, with natural, often unconscious biases, are trusted with programming; therefore, how can we ensure that impartial and factual data sets are being utilized?
- Conflicting interests: As it stands, the EU, the United States, and China are the three "digital superpowers" who are driving the developments of AI. All three, as we have seen, have conflicting approaches – from interests embedded in profits (US), interests in ethical, moral and legal observance (EU), and interests in state security and control (China) – but we cannot discount Russia, India, Japan or any other technological advanced states bringing their own agendas to the table in the future.

In short, successive governments have in the last one hundred years or so made immense progress in aligning international values under the banner of human rights. It has been a long, continual process, from the formation and expansion of the United Nations to the Universal Declaration of Human Rights; not to forget the many other treaties this thesis has called upon to investigate possible human rights violations at the hands of machines and AI. It can be agreed that technology has been and continues to be a positive and negative disruptor – to our work-life balance, to the way in which we conduct business, to our communication methods and social interactions. It has revolutionized transport, safety standards, education and training programs, and expanded our access to information and entertainment beyond the realm of reason. However, it can also now be argued that technology and artificial intelligence have also disrupted many of our fundamental human rights. And as technology advances at its current

pace, whether regulated or not, it will continue to pose further legal, ethical and moral challenges, perhaps impacting human rights which have not been mentioned in this thesis. The focus for now as far as cooperation and safeguarding human rights is concerned, is to attempt to build similar international bridges in the form of treaties such as the UDHR so that we can at least take inescapable digital steps into the future with a shared set of principles, guidelines and moral compass.

10. Bibliography

- Aleksandric, M. (2023). *20+ Gig Economy Statistics for 2023: The State of Gig Work*. [online] FinMasters. Available at: https://finmasters.com/gig-economy-statistics/?gclid=Cj0KCQjwrMKmBhCJARIsAHuEAPQ58Bf8OdIesjdK4pIWbKYYcyIBk85rCtnNNk9PmSop8vSGGZ35CMoaAnyMEALw_wcB [Accessed 8 Aug. 2023].
- American Civil Liberties Union. (n.d.). *The Devil is in the Details: Interrogating Values Embedded in the Allegheny Family Screening Tool*. [online] Available at: <https://www.aclu.org/the-devil-is-in-the-details-interrogating-values-embedded-in-the-allegheny-family-screening-tool>.
- Americanbar.org. (2020). Rule 1.1 Competence - Comment. [online] Available at: https://www.americanbar.org/groups/professional_responsibility/publications/model_rules_of_professional_conduct/rule_1_1_competence/comment_on_rule_1_1/.
- Amit Chowdhry (2018). *Artificial Intelligence To Create 58 Million New Jobs By 2022, Says Report*. Forbes. [online] 18 Sep. Available at: <https://www.forbes.com/sites/amitchowdhry/2018/09/18/artificial-intelligence-to-create-58-million-new-jobs-by-2022-says-report/>.
- Amnesty International. (n.d.). *The Toronto Declaration: Protecting the rights to equality and non-discrimination in machine learning systems*. [online] Available at: <https://www.amnesty.org/en/documents/pol30/8447/2018/en/>.
- Anon, (2023). *How to resolve differences between the EU and the USA on AI and data governance?* | Digital Watch Observatory. [online] Available at: <https://dig.watch/updates/how-to-resolve-differences-between-the-eu-and-the-usa-on-ai-and-data-governance> [Accessed 23 Jul. 2023].
- Arbeiterkammer. (n.d.). Arbeiterkammer. [online] Available at: <https://www.arbeiterkammer.at/index.html> [Accessed 23 Jul. 2023].
- Arend Hintze (2016). *Understanding the four types of AI, from reactive robots to self-aware beings*. [online] The Conversation. Available at: <https://theconversation.com/understanding-the-four-types-of-ai-from-reactive-robots-to-self-aware-beings-67616>.
- Asher-Schapiro, A. (2021). *Chinese tech patents tools that can detect, track Uighurs*. Reuters. [online] 14 Jan. Available at: <https://www.reuters.com/article/us-china-tech-uighurs/chinese-tech-patents-tools-that-can-detect-track-uighurs-idUSKBN29I300>.
- avcontentteam (2023). *Weak AI vs Strong AI: Exploring Key Differences and Future Potential of AI*. [online] Analytics Vidhya. Available at: https://www.analyticsvidhya.com/blog/2023/04/weak-ai-vs-strong-ai/#What_is_Strong_AI [Accessed 23 Jul. 2023].
- BHUIYAN, J. (2021). *Major camera company can sort people by race, alert police when it spots Uighurs*. [online] Los Angeles Times. Available at:

<https://www.latimes.com/business/technology/story/2021-02-09/dahua-facial-recognition-china-surveillance-uighur>.

Bhuiyan, J. and Robins-Early, N. (2023). *The EU is leading the way on AI laws. The US is still playing catch-up*. The Guardian. [online] 13 Jun. Available at:

<https://www.theguardian.com/technology/2023/jun/13/artificial-intelligence-us-regulation>.

Bianchi, T. (2020). *Google: revenue 2017* | Statista. [online] Statista. Available at:

<https://www.statista.com/statistics/266206/googles-annual-global-revenue/>.

Biden, J.R. (2020). *Why America Must Lead Again*. [online] www.foreignaffairs.com.

Available at: <https://www.foreignaffairs.com/articles/united-states/2020-01-23/why-america-must-lead-again>.

Bousquette, I. (2023). *Rise of AI Puts Spotlight on Bias in Algorithms*. [online] WSJ.

Available at: <https://www.wsj.com/articles/rise-of-ai-puts-spotlight-on-bias-in-algorithms-26ee6cc9>.

Brookings. (n.d.). *The EU and U.S. diverge on AI regulation: A transatlantic comparison and steps to alignment*. [online] Available at: <https://www.brookings.edu/articles/the-eu-and-us-diverge-on-ai-regulation-a-transatlantic-comparison-and-steps-to-alignment/#anchor5>.

Business & Human Rights Resource Centre. (n.d.). *The dark side of electric cars:*

Exploitative labour practices. [online] Available at: <https://www.business-humanrights.org/en/latest-news/the-dark-side-of-electric-cars-exploitative-labour-practices/>.

Business Observer. (2023). *AI's legal implications run deep*. [online] Available at:

<https://www.businessobserverfl.com/news/2023/jun/09/ai-legal-implications/>.

Chatterjee, M. (2023). *AI hearing leaves Washington with 3 big questions*. [online]

POLITICO. Available at: <https://www.politico.com/news/2023/05/16/sam-altmans-congress-ai-chatgpt-00097225>.

Congressman Ted Lieu. (2023). *REPS LIEU, BUCK, ESHOO AND SEN SCHATZ INTRODUCE BIPARTISAN, BICAMERAL BILL TO CREATE A NATIONAL COMMISSION ON ARTIFICIAL INTELLIGENCE*. [online] Available at: <https://lieu.house.gov/media-center/press-releases/rep-lieu-buck-eshoo-and-sen-schatz-introduce-bipartisan-bicameral-bill> [Accessed 23 Jul. 2023].

Copeland, B.J. (2022). *Artificial intelligence*. In: *Encyclopedia Britannica*. [online] Available at: <https://www.britannica.com/technology/artificial-intelligence>.

Cosmo, L.D. (2022). *Google Engineer Claims AI Chatbot Is Sentient: Why That Matters*.

[online] Scientific American. Available at:

<https://www.scientificamerican.com/article/google-engineer-claims-ai-chatbot-is-sentient-why-that-matters/>.

Crawford, K. (2018). *The Hidden Biases in Big Data*. [online] Harvard Business Review.

Available at: <https://hbr.org/2013/04/the-hidden-biases-in-big-data>.

cyberlaw.stanford.edu. (n.d.). *Artificial intelligence liability: the rules are changing*. [online]

Available at: <https://cyberlaw.stanford.edu/blog/2023/03/artificial-intelligence-liability-rules-are-changing-1#:~:text=The%20implication%20is%20that%20creators>.

Default. (n.d.). *Intellectual Property Rights of Artificial Intelligence Inventors*. [online]

Available at: <https://www.aipla.org/list/innovate-articles/intellectual-property-rights-of-artificial-intelligence-inventors>.

Dizikes, P. (2020). *How many jobs do robots really replace?* [online] MIT News |

Massachusetts Institute of Technology. Available at: <https://news.mit.edu/2020/how-many-jobs-robots-replace-0504>.

dw.com. (n.d.). *The EU Watergate? Pegasus spyware scandal grows* – DW – 11/08/2022.

[online] Available at: <https://www.dw.com/en/eu-watergate-the-pegasus-spyware-scandal-keeps-spreading/a-63687981> [Accessed 23 Jul. 2023].

European Commission - European Commission. (2021). Press corner. [online] Available at:

https://ec.europa.eu/commission/presscorner/detail/en/ip_21_1682.

European commission (2017). *Working Conditions*. [online] Europa.eu. Available at: <https://ec.europa.eu/social/main.jsp?catId=706&langId=en&intPageId=205>.

European Convention on Human Rights. (n.d.). Available at: https://www.echr.coe.int/documents/d/echr/Convention_ENG.

Gardner, M. and Wamhoff, S. (2021). *55 Corporations Paid \$0 in Federal Taxes on 2020 Profits*. [online] ITEP. Available at: <https://itep.org/55-profitable-corporations-zero-corporate-tax/>.

Harvard Business Review. (2021). *6 Leadership Paradoxes for the Post-Pandemic Era*. [online] Available at: <https://hbr.org/2021/04/6-leadership-paradoxes-for-the-post-pandemic-era>.

How to Quit Your Job in the Great Post-Pandemic Resignation Boom. (2021). Bloomberg.com. [online] 10 May. Available at: <https://www.bloomberg.com/news/articles/2021-05-10/quit-your-job-how-to-resign-after-covid-pandemic#xj4y7vzkg>.

<https://geopolitique.eu/>. (n.d.). *AI vs Human Dignity: When Human Underperformance is Legally Required* - Groupe d'études géopolitiques. [online] Available at: <https://geopolitique.eu/en/articles/ai-vs-human-dignity-when-human-underperformance-is-legally-required/>.

Human Rights Watch. (2020). *Covid-19 Apps Pose Serious Human Rights Risks*. [online] Available at: <https://www.hrw.org/news/2020/05/13/covid-19-apps-pose-serious-human-rights-risks#:~:text=Mobile%20tracking%20programs%20intended%20to> [Accessed 8 Aug. 2023].

Human Rights Watch. (2023). *EU: Artificial Intelligence Regulation Should Protect People's Rights*. [online] Available at: <https://www.hrw.org/news/2023/07/12/eu-artificial-intelligence-regulation-should-protect-peoples-rights#:~:text=In%20Europe%20and%20around%20the> [Accessed 23 Jul. 2023].

Human Rights Watch. (2023). *Questions and Answers on the Right to Social Security*. [online] Available at: <https://www.hrw.org/news/2023/05/25/questions-and-answers-right-social-security> [Accessed 8 Aug. 2023].

IBM (n.d.). *What is Artificial Intelligence (AI)?* [online] www.ibm.com. Available at: <https://www.ibm.com/topics/artificial-intelligence>.

ILO (1958). Convention C111 - Discrimination (Employment and Occupation) Convention, 1958 (No. 111). [online] www.ilo.org. Available at: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C111.

Isidore, C. (2023). *AI is a concern for writers. But actors say they have even more to fear* | CNN Business. [online] CNN. Available at: <https://www.cnn.com/2023/07/18/business/ai-actors-strike/index.html>.

joint-research-centre.ec.europa.eu. (n.d.). *How is technological revolution changing the world of work and skills in the EU?* [online] Available at: https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/how-technological-revolution-changing-world-work-and-skills-eu-2019-09-24_en [Accessed 23 Jul. 2023].

KPEKOLL (2017). *Hate Speech and Hate Crime*. [online] Advocacy, Legislation & Issues. Available at: [https://www.ala.org/advocacy/intfreedom/hate#:~:text=\(The%20Supreme%20Court](https://www.ala.org/advocacy/intfreedom/hate#:~:text=(The%20Supreme%20Court).

Levin, B. and Downes, L. (2023). *Who Is Going to Regulate AI?* [online] Harvard Business Review. Available at: <https://hbr.org/2023/05/who-is-going-to-regulate-ai>.

Lima, C. (2023). *Schumer launches 'all hands on deck' push to regulate AI*. Washington Post. [online] 21 Jun. Available at: <https://www.washingtonpost.com/technology/2023/06/21/ai-regulation-us-senate-chuck-schumer/> [Accessed 23 Jul. 2023].

Marr, B. (n.d.). *Future Of Work: The 5 Biggest Workplace Trends In 2022*. [online] Forbes. Available at: <https://www.forbes.com/sites/bernardmarr/2021/11/22/future-of-work-the-5-biggest-workplace-trends-in-2022/?sh=27351eec7d0f> [Accessed 8 Aug. 2023].

McCarthy, J. (2007). *What is artificial intelligence?* [online] Stanford University. 12 Nov. Available at: <https://www-formal.stanford.edu/jmc/whatisai.pdf>.

Milmo, D. and editor, D.M.G. technology (2023). *Elon Musk launches AI startup and warns of a 'Terminator future.'* The Guardian. [online] 13 Jul. Available at: <https://www.theguardian.com/technology/2023/jul/13/elon-musk-launches-xai-startup-pro-humanity-terminator-future>.

Mukherjee, S., Chee, F.Y. and Coulter, M. (2023). *EU proposes new copyright rules for generative AI*. Reuters. [online] 28 Apr. Available at: <https://www.reuters.com/technology/eu-lawmakers-committee-reaches-deal-artificial-intelligence-act-2023-04-27/>.

news.bloomberglaw.com. (n.d.). *Getty Images Sues Stability AI Over Art Generator IP Violations*. [online] Available at: <https://news.bloomberglaw.com/ip-law/getty-images-sues-stability-ai-over-art-generator-ip-violations>.

OHCHR. (n.d.). A/HRC/49/28: *Report of the Secretary-General on the question of the realization in all countries of economic, social and cultural rights*. [online] Available at: <https://www.ohchr.org/en/documents/reports/ahrc4928-report-secretary-general-question-realization-all-countries-economic> [Accessed 8 Aug. 2023].

OHCHR. (n.d.). *Artificial intelligence must be grounded in human rights, says High Commissioner*. [online] Available at: <https://www.ohchr.org/en/statements/2023/07/artificial-intelligence-must-be-grounded-human-rights-says-high-commissioner> [Accessed 23 Jul. 2023].

OHCHR. (n.d.). Committee on Legal Affairs and Human Rights, Parliamentary assembly Council of Europe - *Hearing on the implications of the Pegasus spyware*. [online] Available at: <https://www.ohchr.org/en/statements/2021/09/committee-legal-affairs-and-human-rights-parliamentary-assembly-council-europe?LangID=E&NewsID=27455> [Accessed 23 Jul. 2023].

OHCHR. (n.d.). OHCHR | *OHCHR and the right to social security*. [online] Available at: <https://www.ohchr.org/en/social-security>.

Olhede, S.C. and Wolfe, P.J. (2018). *The growing ubiquity of algorithms in society: implications, impacts and innovations*. Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 376(2128), p.20170364. doi:<https://doi.org/10.1098/rsta.2017.0364>

PBS NewsHour. (2023). *From data privacy to AI, here are new rules Congress is considering for tech companies*. [online] Available at: <https://www.pbs.org/newshour/politics/from-data-privacy-to-ai-here-are-new-rules-congress-is-considering-for-tech-companies>.

POLITICO. (2022). *Harmful AI rules: Now brought to you by Europe & Co., Inc.* [online] Available at: <https://www.politico.eu/article/harmful-ai-rules-european-union-corporate-influence/>.

Quantic School of Business and Technology. (n.d.). *The Future of Leadership in 2030: 6 New Disruptive Trends - The Quantic Blog*. [online] Available at: <https://quantic.edu/blog/2022/08/05/the-future-of-leadership-in-2030-6-new-disruptive-trends/>.

Roberts, H., Cows, J., Hine, E., Mazzi, F., Tsamados, A., Taddeo, M. and Floridi, L. (2021). *Achieving a 'Good AI Society': Comparing the Aims and Progress of the EU and the US*. *Science and Engineering Ethics*, 27(6). doi:<https://doi.org/10.1007/s11948-021-00340-7>.

Satariano, A., Pronczuk, M. and McCabe, D. (2023). *U.S. and E.U. Complete Long-Awaited Deal on Sharing Data*. The New York Times. [online] 10 Jul. Available at: <https://www.nytimes.com/2023/07/10/technology/us-eu-data-privacy-deal.html>.

Scheiber, N. (2021). Uber and Lyft Ramp Up Legislative Efforts to Shield Business Model. *The New York Times*. [online] 9 Jun. Available at: <https://www.nytimes.com/2021/06/09/business/economy/uber-lyft-gig-workers-new-york.html>.

Schwab, K. and Zahidi, S. (2020). *The Future of Jobs Report 2020*. [online] World Economic Forum. World Economic Forum. Available at: https://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf.

Seamans, R. (n.d.). *AI Regulation Is Coming To The U.S., Albeit Slowly*. [online] Forbes. Available at: <https://www.forbes.com/sites/washingtonbytes/2023/06/27/ai-regulation-is-coming-to-the-us-albeit-slowly/?sh=5818d0997ee1> [Accessed 23 Jul. 2023].

Shepardson, D. and Cowan, R. (2023). *US needs 'comprehensive legislation' to address AI risks, Schumer says*. Reuters. [online] 21 Jun. Available at: <https://www.reuters.com/world/us/us-needs-comprehensive-legislation-address-ai-schumer-2023-06-21/> [Accessed 23 Jul. 2023].

Stand Up For Human Rights (2019). *Stand up for Human Rights*. [online] Standup4humanrights.org. Available at: <https://www.standup4humanrights.org/en/article.html>.

Statista Infographics. (n.d.). *Infographic: Income Tax Around The World*. [online] Available at: <https://www.statista.com/chart/19734/income-tax-around-the-world/>.

The impact of Pegasus on fundamental rights and democratic processes Policy Department for Citizens' Rights and Constitutional Affairs Directorate-General for Internal Policies PE. (n.d.). Available at: [https://www.europarl.europa.eu/RegData/etudes/STUD/2022/740514/IPOL_STU\(2022\)740514_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2022/740514/IPOL_STU(2022)740514_EN.pdf).

The Irish Times. (n.d.). *Benefit of tech advances 'outweigh risks,' says top US diplomat*. [online] Available at: <https://www.irishtimes.com/business/2023/06/12/benefit-of-tech-advances-outweigh-risks-says-top-us-diplomat/> [Accessed 23 Jul. 2023].

The Irish Times. (n.d.). *EU's top court to hear high-stakes Irish Apple tax appeal in May*. [online] Available at: <https://www.irishtimes.com/business/2023/03/13/eus-top-court-to-hear-high-stakes-irish-apple-tax-appeal-in-may/> [Accessed 8 Aug. 2023].

The White House (2022). *Blueprint for an AI Bill of Rights*. [online] The White House. Available at: <https://www.whitehouse.gov/ostp/ai-bill-of-rights/>.

The White House. (n.d.). *+ Algorithmic Discrimination Protections | OSTP*. [online] Available at: <https://www.whitehouse.gov/ostp/ai-bill-of-rights/algorithmic-discrimination-protections-2/>.

Twitter. (n.d.). <https://twitter.com/pdchina/status/978444380066390016>. [online] Available at: <https://twitter.com/PDChina/status/978444380066390016>.

UN News. (2021). *Urgent action needed over artificial intelligence risks to human rights*. [online] Available at: <https://news.un.org/en/story/2021/09/1099972>.

United Nations (1948). *Universal Declaration of Human Rights*. [online] United Nations. Available at: <https://www.un.org/en/about-us/universal-declaration-of-human-rights>.

Weiner, I. (2021). *FTC Declares Racially Biased Algorithms in Artificial Intelligence Unfair and Deceptive, Prohibited by Law*. [online] Lawyers' Committee for Civil Rights Under Law. Available at: https://www.lawyerscommittee.org/ftc-declares-racially-biased-algorithms-in-artificial-intelligence-unfair-and-deceptive-prohibited-by-law/?gad=1&gclid=Cj0KCQjw8NilBhDOARIsAHzpbLDVmEcSLaYp7BZmLvNw08xvqyIasSAlerBRoeCi_7UF0jOI5cdZII4aAnDIEALw_wcB [Accessed 23 Jul. 2023].

Work for a brighter future GLOBAL COMMISSION ON THE FUTURE OF WORK. (n.d.). Available at: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---cabinet/documents/publication/wcms_662539.pdf.

World Economic Forum. (2023). *'On artificial intelligence, trust is a must, not a nice to have,' one lawmaker said. #AI.* [online] Available at: <https://www.weforum.org/agenda/2023/06/european-union-ai-act-explained/>.

www.americanbar.org. (n.d.). *What could AI regulation in the US look like?* [online] Available at: <https://www.americanbar.org/groups/journal/podcast/what-could-ai-regulation-in-the-us-look-like/#:~:text=%E2%80%9CAt%20present%2C%20the%20regulation%20of> [Accessed 23 Jul. 2023].

www.businessresearchinsights.com. (n.d.). *Gig Economy Market Size, Share, Growth Analysis Report 2028.* [online] Available at: <https://www.businessresearchinsights.com/market-reports/gig-economy-market-102503>.

www.fticonsulting.com. (n.d.). *Mitigating Artificial Intelligence Bias for EU | FTI.* [online] Available at: <https://www.fticonsulting.com/insights/articles/mitigating-artificial-intelligence-bias-risk-preparation-eu-regulation> [Accessed 23 Jul. 2023].

www.geneko.rs. (n.d.). *GPS Technology: Geneko.* [online] Available at: <https://www.geneko.rs/en/gps-technology>.

www.ilo.org. (2021). *Building the future of social protection for a human-centred world of work.* [online] Available at: https://www.ilo.org/ilc/ILCSessions/109/reports/reports-to-the-conference/WCMS_780953/lang--en/index.htm [Accessed 8 Aug. 2023].

www.ilo.org. (n.d.). *Recommendation R202 - Social Protection Floors Recommendation, 2012 (No. 202).* [online] Available at: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:3065524.

www.ilo.org. (n.d.). *World Social Protection Report 2020-22.* [online] Available at: <https://www.ilo.org/global/research/global-reports/world-social-security-report/2020-22/lang--en/index.htm>.

www.ishn.com. (n.d.). *From Europe: A warning about the impact of technology on jobs, the environment | 2019-01-24 | ISHN.* [online] Available at: <https://www.ishn.com/articles/110134-from-europe-a-warning-about-the-impact-of-technology-on-jobs-the-environment> [Accessed 23 Jul. 2023].

www.un.org. (n.d.). *Secretary-General's remarks to the Security Council on Artificial Intelligence | United Nations Secretary-General.* [online] Available at: <https://www.un.org/sg/en/content/sg/speeches/2023-07-18/secretary-generals-remarks-the-security-council-artificial-intelligence> [Accessed 9 Aug. 2023].

Zirpoli, C. (2023). *Generative Artificial Intelligence and Copyright Law.* [online] Congressional Research Service. Available at: <https://crsreports.congress.gov/product/pdf/LSB/LSB10922>.