Committee: Youth Assembly

Topic: Question on robotics ethics

Student Officer: Judy (Jiayan) Chang

Position: Deputy President

Personal Introduction

Dear delegates,

I'm Judy Chang, I'm now a year 10 student at Campion school. It is my pleasure to be serving as a co-head in the Youth Assembly (YA) this year. I'm really excited about this year's conference, and I can't wait to see your wonderful performance!

I've been doing MUN for about three years as a delegate, it has always been my dream to become a student officer. And as you see, I achieved it this year! It is my first time participating in a conference as a co-head and I'm very glad to experience this with all of you. I am now here to tell you with great confidence that MUN is definitely one of the best ways to improve your English skills: public speaking, critical thinking, team working and so on. I hope you will benefit from this conference afterward.

This study guide serves as a basis for your preparation, and it provides you with some information on the question of robotics ethics as well as some solutions to solve it. Even so, I still suggest you do some further research in order to perfect it. Wish you a rewarding discussion and I'm looking forward to meeting you all!

Yours truly,

Judy Chang jchang@campion.edu.gr

Topic Introduction

Many new intelligent gadgets have appeared in the globe as a result of the rapid advancements in modern science and technology since the turn of the 20th century. The advancement and modifications in robotics stand out among these. Our lives have been greatly facilitated by artificial intelligence, autonomous robots, as well as cobots and automated guided vehicles. The ethical implications of robots have, however, been more obvious and significant as their autonomy has expanded.

Robotic Ethics, sometimes called roboethics, highlights an ethical issue that has arisen with robots. Robotic Ethics is the field of research concerned with how to construct ethical robots and what regulations should be set for robots to assure their ethical conduct. Following the improvement of technology, the place of the robots in society is getting more and more major. For example, robots serving food in many restaurants are common to be seen in some countries such as the UK; Robots selling goods and products to customers automatically; And factories chose to replace workers with robots due to their accurate and powerful robotic arms. Also, they have enhanced the quality of our lives in many different aspects such as healthcare, manufacturing, agriculture, military, and services. It links closely with legal and as well as the socio-economic issues and some example issues include the fact that people may develop an improper connection to the machine, endangering social ties. Another example would be that the computer may become overly autonomous, losing human control.[1]

Advanced robotics can benefit society in many ways, but it can also cause lots of problems. Some of the worries include whether robots pose a short-term or long-term hazard to people. If using robots for particular purposes (such as using them in

[1] "The Use of Social Robots in Mental Health: What Ethical Issues? - Hello Future Orange." Hello Future, 10 Feb. 2022, https://hellofuture.orange.com/en/the-use-of-social-robots-in-mental-health-what-ethical-issues/#:~:text=Concerning%20social%20robots%2C%20these%20reports,excessive%20autonomy%20for%20the%20machine%2C.

medicine or as "killing robots" in battles) is problematic, how should they be designed to operate "ethically". This field of concern is known as machine ethics. A fundamental issue with robotic ethics is the displacement of human labor, social uses, and autonomy.

This topic is worth investigating due to the unpredictable future of its technology and the importance of the safety of humans under a high threat of being harmed by a much more advanced intelligence. As the advancement of robots increases, the probability of a significant mishap increases, which makes us question whether it is ethically sound to continue this advancement.

Definition of key terms

Robots

A device that can automatically mimic certain human movements and activities while seeming like a human. [2]

Ethic

A set of moral standards, particularly those that relate to or support a particular population, industry, or rules of conduct.[3]

[2] "Robot." *Encyclopædia Britannica*, Encyclopædia Britannica, Inc. https://www.britannica.com/technology/robot-technology.

[3] "Ethic Definition & Meaning." *Merriam-Webster*, Merriam-Webster, https://www.merriam-webster.com/dictionary/ethic.

Artificial Intelligence (AI)

'The simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, decision making, speech recognition and machine vision.'4

Natural Selection

'The process whereby organisms better adapted to their environment tend to survive and produce more offspring. The theory of its action was first fully expounded by Charles Darwin, and it is now regarded as the main process that brings about evolution.'[5]

Lethal autonomous weapons (LAWS)

Lethal autonomous weapons are a subset of autonomous military systems that can locate and engage targets on their own depending on parameters and descriptions that have been preprogrammed.[6]

Autonomy

The trait or condition of self-governance.

Controller

A miniature computer used in robotics that serves as the brain and houses the robot's software.

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[4] Burns, Ed, et al. "What Is Artificial Intelligence (AI)? Definition, Benefits and Use Cases." *SearchEnterpriseAI*, TechTarget, 23 Feb. 2022, https://www.techtarget.com/searchenterpriseai/definition/AI-Artificial-Intelligence.

[5] z "Natural Selection: Meaning & Definition for UK English." *Lexico Dictionaries | English*, Lexico Dictionaries, https://www.lexico.com/definition/natural_selection.

[6] "Lethal Autonomous Weapon." *Wikipedia*, Wikimedia Foundation, 2 Aug. 2022, https://en.wikipedia.org/wiki/Lethal_autonomous_weapon.

Programmer

A person who writes and tests computer programs.

Prejudice

Predetermined belief that is unsupported by logic or personal experience.

Background Information

With the development of technology, robots are becoming relevant to our lives. However, while we may enjoy the convenience brought by them; many people have to consider the risks brought from them in the future. One of the simplest examples is artificial intelligence. We do not want to accept that robots will be taking over the world and ruling the human race in the future, but after all they do have a highly functional brain that is millions of times more accurate and faster than ours. And the terrifying truth is that this is a very real possibility, and if humans don't do something about it, such a tragedy could soon follow.

The problems of artificial intelligence

When AI and robots meet each other, they become autonomous robots. Their brain consists of advanced technological mechanisms which allow it to calculate huge numbers in less than one second, and what worries us is that these continue to get updated.

Early on, it was commonly believed that the future of AI lay in the automation of simple repetitive jobs requiring low-level decision-making. But as computing power has increased and huge data sets have been gathered, AI has quickly become more sophisticated. Education has been transformed by machine learning, which is renowned for its ability to filter and analyze massive amounts of data while also learning over time.

AI brought us many conveniences and sometimes helps humans a lot in a variety of different fields. An example of a benefit of AI is that AI helps in decision-

making whichs accelerates and improves the process. AI also never stops, never has downtime, and always works, which could be a potential benefit. In addition, AI shortens the time required to finish a task. It makes multitasking possible and lightens the demand on the available resources. Another benefit would be that AI improves the capacities of people with disabilities. However, these all entail some major dilemmas of artificial intelligence.

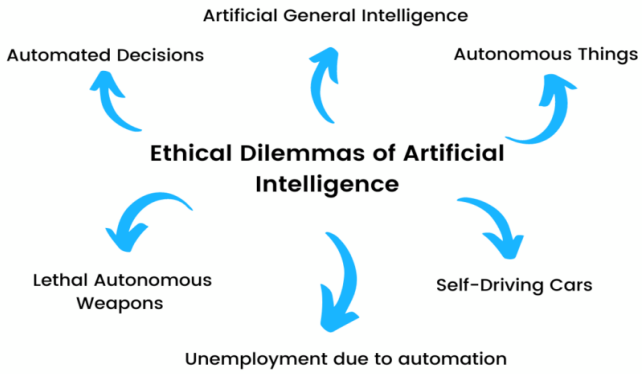

Figure 1: "the Ethical Dilemmas of Artificial Intelligence"[7]

Political philosopher Michael Sandel, Anne T. and Robert M. Bass Professor of Government said: 'Part of the appeal of algorithmic decision-making is that it seems to offer an objective way of overcoming human subjectivity, bias, and prejudice, but we are discovering that many of the algorithms that decide who should get parole, for example, or who should be presented with employment opportunities or housing … replicate and embed the biases that already exist in our society.' [8] Artificial intelligence

[7] "Top 9 Ethical Dilemmas of AI and How to Navigate Them in 2022." *AIMultiple*, https://research.aimultiple.com/ai-ethics/.

[8] Pazzanese, Christina. "Ethical Concerns Mount as AI Takes Bigger Decision-Making Role." *Harvard Gazette*, Harvard Gazette, 4 Dec. 2020, https://news.harvard.edu/gazette/story/2020/10/ethical-concerns-mount-as-ai-takes-bigger-decision-making-role/#:~:text=AI%20presents%20three%20major%20areas,political%20implications%20of%20new%20technologies.

helps humans to overcome subjectivity; they approach everything in an extremely objective and fair manner. However, in many cases, this overly programmed algorithm excludes those who really need to be selected. Algorithms don't have feelings and they don't empathize with people. They will only make choices in the data and not actually make meaningful judgements. Many of the subjective judgements that people make are often more valuable. And it is these subjectivities and prejudices that have created the normal pattern of modern society, where different people are assigned to different levels according to different judgements.

Privacy and surveillance, prejudice and discrimination, and probably the deepest, most challenging philosophical topic of the period are three important ethical concerns for AI.

Natural selection and Evolutionary Robotics

Evolutionary robotics is an integrated technique to Artificial Intelligence (AI) in which robots are automatically evolved and varied using the idea of natural selection by Charles Darwin. Research in the subject of evolutionary robotics uses evolutionary computing to create robots that adapt to their environment in a manner akin to natural evolution.[9] Robots are designed to become better and more intelligent on their own, they are also able to study large amounts of information by themselves. As the time passes by, they have even involved a reproduction ability which means a new robot, the offspring, is encoded by a robotic genotype created by altering the genotype of one robot or recombining the genotypes of two parent robots. By supplying the genotype to a 3D printer that creates a robot according to this genotype, this offspring might be created. This offspring has the combination genotype of their 'parents', which varied the robot generation. Therefore, the automated manufacture of robots may result in a large number of arbitrary robot shapes, increasing the possibility of

[9] Silva, Fernando, et al. "Evolutionary Robotics." *Scholarpedia*, http://www.scholarpedia.org/article/Evolutionary_Robotics.

accidentally producing robots with negative behaviors. It made the problem much more complex.

Robot evolution, as a new technology, challenges current AI ethics since human control over evolutionary systems is greatly weakened by their intrinsic adaptability, variability, and complexity. Two main risks brought by them are:

Risk of multiplication

The robots' high rates of reproduction might lead to excessive population increase as they evolve. Resources like space, energy, and raw materials like air or water may be exhausted if the robot population grows too high. While a single robot might not constitute a serious threat, a large group of them acting in concert poses a concern.

Risk of dominance

Rather than as a direct result of selection, the robots might develop to become the dominant "species," perhaps as an emergent characteristic of their capabilities. This could occur if they go beyond human beings academically, physically, or emotionally. As a consequence, they could develop into kind influences or decision-makers who subtly or overtly plan our lives. Human autonomy would be at least partially reduced by the robot's domineering behavior, even if humans would not suffer any bodily damage.[10]

Historical Events

Asimov & Three Laws of Robotics 1942

The first most important event which made a fundamental effort on setting the ethics of robotics is the publication of ‘Runaround’, which is a science fiction novel written by Isaac Asimov in 1942. This book includes his well-known ‘Three Laws of

[10] Eiben, Ágoston E., et al. “Robot Evolution: Ethical Concerns.” *Frontiers*, Frontiers, 1 Jan. 1AD, https://www.frontiersin.org/articles/10.3389/frobt.2021.744590/full#B50.

Robotics'. The aim of these rules is to protect humans from harmful interactions with robots.

First Law

'A robot may not injure a human being or, through inaction, allow a human being to come to harm.' [11]

Second Law

'A robot must obey the orders given to it by human beings, except where such orders would conflict with the First Law.' [12]

Third Law

'A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.' [13]

Asimov constantly changed these three laws later on, and in the context of his science fiction novels, a fourth law, often known as the zeroth law, was finally introduced to come before the first three.

Many people think that this idea does assist when dealing with the ethical issues that robots are having nowadays, though it is still debatable. Additionally, it inspired people to start thinking about the threat posed by the robot generation. It can be seen as the first crucial step toward the overall resolution of the robotic ethical problem. [14]

[11] Isaac Asimov's "Three Laws of Robotics", https://webhome.auburn.edu/~vestmon/robotics.html#:~:text=A%20robot%20may%20not%20injure,conflict%20with%20the%20First%20Law.

[12] Ibid

[13] Ibid

[14] *The Guardian*, Guardian News and Media, https://www.theguardian.com/notesandqueries/query/0,5753,-21259,00.html#:~:text=The%20first%20law%20is%20that,to%20come%20to%20harm%20itself.

The First International Symposium on Roboethics 2004

The First International Symposium on Roboethics, held in 2004 by Scuola di Robotica, the Arts Lab of Scuola Superiore Sant'Anna, Pisa, and the Theological Institute of Pontificia Accademia della Santa Croce, Rome, was another significant occasion that sparked interest in roboethics. This Roboethics Symposium was created because of the initiatives of the School of Robotics, a non-profit organization whose mission is to increase public and student awareness of the science of robotics. Gianmarco Veruggio[15] and Fiorella Operto[16] believed that it was important to dispel false notions about the purported risks associated with robotics in conversations with students and non-specialists. After that, they held a debate which continued for two days aimed to motivate people to take actions in the education of public opinions, help them understand the benefits of the new technology, and help avoid misuse of it. Anthropologist Daniela Cerqui recognized three primary ethical viewpoints that emerged after two days of vigorous discussion. Firstly, those who are not interested in ethics. They consider that their actions are strictly technical, and do not think they have a social or a moral responsibility in their work. And secondly, those who are interested in short-term ethical questions. According to this profile, questions are expressed in terms of “good” or “bad,” and refer to some cultural values. For instance, they feel that robots have to adhere to social conventions. This will include “respecting” and helping humans in diverse areas such as implementing laws or in helping elderly people. (Such considerations are important, but we have to remember that the values used to define the “bad” and the “good” are relative. They are the contemporary values of the industrialized countries).’

‘Those who think in terms of long-term ethical questions, about, for example, the “Digital divide” between South and North, or young and elderly. They are aware of the gap between industrialized and poor countries, and wonder whether the former should

[15] “Gianmarco Veruggio.” *Festival Della Tecnologia*, 4 Oct. 2019, https://2019.festivaltecnologia.it/ospiti/gianmarco-veruggio.

[16] “Fiorella Operto.” *Open Roboethics Institute*, https://openroboethics.org/people/fiorella-operto/.

not change their way of developing robotics to be more useful to the South. They do not formulate the question explicitly, but we can consider that it is implicit".'

A little bit like the 'Three laws of robotics', another three rules were drafted. But unlike the restriction on robots, these laws seem to be more focused on humans. It clearly pointed out three different groups of people by their views of ethics and gave us a rounded perspective on how we can tackle ethical concerns. The term 'roboethics' officially appeared for the first time.[17]

Major countries and organizations involved

Japan

The largest producers of electronics and cutting-edge technology are Asia's industrialized nations. With the help of these businesses, postwar Japan transformed from an agricultural civilization to a major trading nation. Japanese firms use more than half of the industrial robots in the globe. The potential legal repercussions of the eventual use of humanoid robots have been investigated by the Japanese Ministry of International Trade and Industry.[18] Japan is really famous for robots, the reason is that it has a strong robotic culture. Since the 1950s, many comics in Japan started putting more and more robot elements. The first, and also one of the most famous robot anime/comics is "Astro Boy" in 1951.[19] Not only that, about half of the robots in the world are made in Japan, many new technologies are invented there as well. Robots are commonly used in their society[20], became part of their lives, robot restaurant, robot

[17] Veruggio, Gianmarco. *ROBOETHICS Cover*, http://www.roboethics.org/sanremo2004/.

[18] *You Are Being Redirected...*, https://www.analyticsinsight.net/top-5-countries-leading-robotics-implementation-in-2021/.

[19] "Japanese Robots." *Encyclopedia of Japan*, https://doyouknowjapan.com/robots/.

[20] "Service Robots Tackle New Challenges: The Government of Japan - Japangov -." JapanGov, https://www.japan.go.jp/global_issues/innovators_unlocking_globalsolutions/01.html.

hotel, robot for fighting against the Covid-19, and even robot wife is commonly seen in Japan. The Robotics industry is deeply rooted in every Japanese citizen.

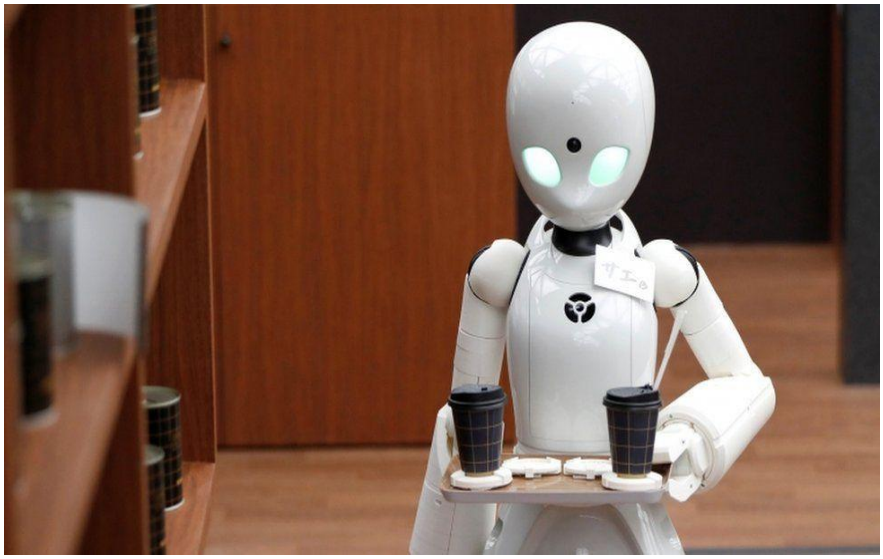

Figure 3: 'The robots served drinks and cleared tables in the café'[21]

South Korea

The technological industry and the prospect of a robotic future are both very important to South Koreans. The robot density in South Korea is seven times more than the norm for the world, and it has been rising there by 10% year since 2015. Every Korean household was expected to have a robot by 2015, according to the Ministry of Information and Communication. By 2018, robots were anticipated to operate on people. A Robot Ethics Charter is in the works, according to the South Korean government. The statement was written by a five-person team that included futurists and a science fiction author with the intention of preventing "robot abuse of humans and human abuse of robots." [22]

[21] "Japanese Cafe Uses Robots Controlled by Paralysed People." BBC News, BBC, 6 Dec. 2018, https://www.bbc.com/news/technology-46466531.

[22] Wessling, Brianna. "10 Most Automated Countries Worldwide." *The Robot Report*, 15 Dec. 2021, https://www.therobotreport.com/10-most-automated-countries-wordlwide-in-2020/.

United Kingdom

As one of the leaders of the robotic industry, the UK has already passed several papers with the purpose of dealing with the problem, for example the paper 'Robots and robotic devices', published in 2016, aimed to highlight concerns and recommendations for developers to set rules for their robots.[23] In the UK, the automotive industry is by far the biggest user of industrial robots. In 2020, sales increased by 16 % to 875 units, accounting for 40 % of installations in the UK. The UK economy receives £67 billion in sales and £14 billion in value added from the automotive industry, which normally invests about £3 billion annually in R&D.[24] The UK is also planning to provide education on automation. Where more people can use their intelligence in the real world, they believe that studying robotic skills helps them for their careers in future as well.[25]

[23] "BS 8611:2016." *Loading...*, https://knowledge.bsigroup.com/products/robots-and-robotic-devices-guide-to-the-ethical-design-and-application-of-robots-and-robotic-systems/standard.

[24] "UK Automotive." SMMT, 4 July 2022, https://www.smmt.co.uk/industry-topics/uk-automotive/.

[25] "The Robotics Landscape in the UK." *The Manufacturer*, 7 Feb. 2022, https://www.themanufacturer.com/articles/the-robotics-landscape-in-the-uk/.

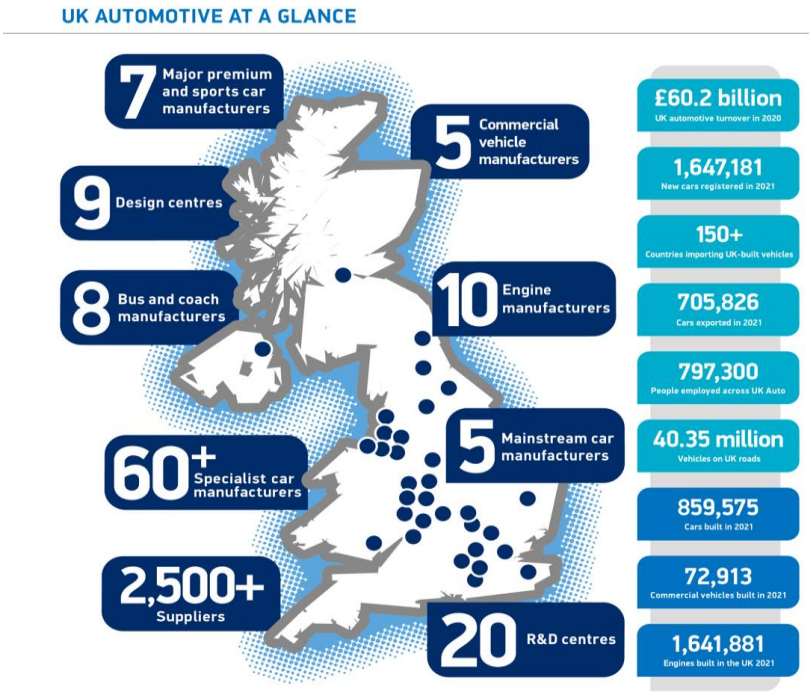

Figure 3: 'UK automotive at a glance'[26]

United States

The North American robotics business received record amounts of orders in just the first nine months of the year, indicating that the growth of automation in the United States hasn't slowed down in 2021. Robots already represent a danger to low-skilled occupations in the United States due to their significant economic and employment market influence. The legal status of robots is, however, mostly unregulated in the United States.[27] Also, the USA is also investigating robots in the military. Advocates in the US and abroad believe that LAWS have the ability to save lives on the battlefield, as the technology advances, they are likely to become 'killer robots'. And in fact, The DoD intends to invest a total of US$4.6 billion in unmanned and AI systems in the 2020 budget. Many organizations such as the HRW and the

[26] *SMMT Motor Industry Facts 2021*. https://www.smmt.co.uk/wp-content/uploads/sites/2/SMMT-Motor-Industry-Facts-August-2021.pdf.

[27] Ifr. "US-Industry: 135,000 New Robots Bring Jobs Back Home." *IFR International Federation of Robotics*, https://ifr.org/news/us-industry-135000-new-robots-bring-jobs-back-home/.

IHRC are challenging the investment of the 'killer robots', they believe these harm the ethic, but the ethical concerns are not in the first place for the DoD.

Open Community for Ethics in Autonomous and Intelligent Systems (OCEANIS)

Open Community for Ethics in Autonomous and Intelligent Systems gives groups interested in the creation and use of standards to advance the development of autonomous and intelligent systems a high-level international venue for discussion, debate, and collaboration. One of their achievements is the establishment of a large open platform for all the developers and visitors to share information globally. This platform also provides many opportunities for developers from all over the world to communicate and solve problems.[28]

International Federation of Robotics (IFR)

International Federation of Robotics was founded in 1987 as a professional non-profit organization with the mission of advancing, supporting, and preserving the global robotics industry. More than 20 nations' international robotics players have gathered under IFR. It is a distinctive forum for exchanging[29] The paper: World Robotics R&D Program' was released and updated by the IIFR in 2021.[30] It presents a summary of the objectives of the officially led government research funding programs in different countries. It provided many essential information such as Japan's new robot strategy and EU's Horizon 2020 Robotics Work program, which are very helpful for the research and studies.[31]

[28] "AI and Robot Ethics - Organisation Links." *AIethics.AI - Artificial Intelligence and Robot Ethics*, 24 Nov. 2020, https://robotethics.co.uk/robot-ethics-organisation-links/.

[29] Ifr. "International Federation of Robotics." *IFR International Federation of Robotics*, https://ifr.org/.

[30] ibid

[31] *World Robotics R&D Programs - IFR International Federation of Robotics*. https://ifr.org/downloads/papers/Executive_Summary_-_World_Robotics_RD_Programs_V02.pdf.

Timeline of events

1942	The three laws of robotics were established
30–31 January 2004	In Sanremo, Italy, the First International Symposium on Roboethics took place and the term 'roboethics' and the education of ethical concern came into play. [32]
18 April 2005	In Barcelona, Spain an International Conference on Robotics and Automation and a subsequent workshop of roboethics took place.[33]
June 4-8 2007	The International Conference on Artificial Intelligence and Law took place in Stanford University.[34]
February 16, 2017	A report with recommendations to the Commission on Civil Law Rules on Robotics was made in the EU[35]

[32] Veruggio, Gianmarco. *ROBOETHICS Cover*, http://www.roboethics.org/sanremo2004/.

[33] "Workshop on Robo-Ethics." *ICRA 2005 - Workshop on Robo-Ethics*, https://web.archive.org/web/20070928113305/http://www.roboethics.org/icra05/index.php.

[34] Schloss Dagstuhl - Leibniz Center for Informatics. "Home." *Dblp*, ACM, 31 July 2022, https://dblp.uni-trier.de/db/conf/icail/icail2007.html.

[35] DELVAUX, Mady. "Report with Recommendations to the Commission on Civil Law Rules on Robotics: A8-0005/2017: European Parliament." *REPORT with Recommendations to the Commission*

October 1, 2021	IROS 2021 Workshop took place which aimed at building and evaluating ethical roboticsystems[36]

Past attempts to solve the issue

Ethical guidelines on the role and functions of robots, South Korea, 2007

As the robotic industry in South Korea is major, the government announced the "ethical guidelines on the role and functions of robots" due to the inspiration of Asimov's three laws. This charter was released in 2007, and its main goal was to 'develop a keen intelligence'. Although it has never been made public, this document is now the first to examine robot law from an ethical perspective, with a focus on situations involving interactions between people and artificially intelligent, decision-making machines.

Paper - Robots and robotic devices, United Kingdom, 2016

The British Standards Institute published a document "Robots and robotic devices" in April 2016. This is a manual for the ethical creation and use of robots and robotic systems. While highlighting the ethical dangers involved with the development of robots, such as the possibility that they may engage in racist behavior, for example. Although it has no legal value, it offers important guidelines for many robot developers.

on Civil Law Rules on Robotics | A8-0005/2017 | European Parliament, https://www.europarl.europa.eu/doceo/document/A-8-2017-0005_EN.html#_section10.

[36] "Iros 2021: Workshops." *IROS 2021 | Workshops*, https://www.iros2021.org/workshops.

This was the most up-to-date document which focuses on the concern of robotic ethics in 2018.[37]

Report with recommendations to the Commission on Civil Law Rules on Robotics, EU, 2017

On 27th January 2017, the Parliament received a report that was put up by Luxembourg's Mady Delvaux. To "exploit their full economic potential and to provide a standard level of safety and security," this resolution requests that the European Commission strive to create ethical guidelines for robots and artificial intelligence. This resolution was passed with 17 supporters out of 21 on February 16, 2017.[38]

Report by Rathenau Institute, 2017

A report on "Human rights in the robot age" was published in 2017 and was ordered by the Parliamentary Assembly of the Council of Europe (PACE). The paper discusses the possible harm that robots might cause to a variety of human rights concerns, such as respect for private life, human dignity, ownership, safety, and liability, freedom of speech, banning discrimination, access to justice, and access to a fair trial. It suggests the creation of two brand-new human rights: the right to meaningful human interaction and the right to not be measured, analyzed, or coached.[39]

[37] "BS 8611:2016." *Loading...*, https://knowledge.bsigroup.com/products/robots-and-robotic-devices-guide-to-the-ethical-design-and-application-of-robots-and-robotic-systems/standard.

[38] DELVAUX, Mady. "Report with Recommendations to the Commission on Civil Law Rules on Robotics: A8-0005/2017: European Parliament." *REPORT with Recommendations to the Commission on Civil Law Rules on Robotics | A8-0005/2017 | European Parliament*, https://www.europarl.europa.eu/doceo/document/A-8-2017-0005_EN.html#_section10.

[39] *Unesdoc.unesco.org*, https://unesdoc.unesco.org/ark:/48223/pf0000253952.

Relevant UN Resolutions, Events, Treaties and Legislation

Nos. 3 & 4 Vol. LV "New Technologies: Where To?", December 2018, UN

This issue was published in the UN Chronicle in 2018, it focuses on emerging technologies, including how they could help mankind and how they're being used more and more to advance the 2030 Agenda. It examines the potential of our digital era while presenting crucial queries about our future and the ways in which the abuse of these technologies may result in more inequality and conflict.[40]

Report, UN, 15 September 2021

According to Michelle Bachelet, the UN's high commissioner for human rights, states should impose moratoriums on the purchase and use of artificial intelligence (AI) systems until sufficient protections are in place. The technology might affect "rights to privacy, to a fair trial, to freedom from arbitrary arrest and incarceration, and the right to life," the report she released warned of the use of AI as a predicting and profiling tool. She urged to stop the selling of Artificial intelligence on the market until there's a possible solution.[41]

Possible solutions

Set solid ethical behavior

Researchers and ethicists in AI should provide computers with precise solutions and guidelines for making decisions to avoid any potential ethical challenges. It has to be practical and strict, and suggest enough rules in order to make sure that the robots are 'on the right way'. This would necessitate human beings coming to an

[40] "Towards an Ethics of Artificial Intelligence." *United Nations*, United Nations, https://www.un.org/en/chronicle/article/towards-ethics-artificial-intelligence.

[41] "Urgent Action Needed over Artificial Intelligence Risks to Human Rights | | UN News." *United Nations*, United Nations, https://news.un.org/en/story/2021/09/1099972.

agreement on what would be the greatest ethical thing to do in any particular circumstance. A significant example is the 'Germany's Ethics Commission on Automated and Connected Driving' which has designed that Self-driving automobiles should be programmed with moral principles that put the preservation of human life above everything else. In other words, when an accident is unavoidable, a car mustn't be able to decide whether to kill one person based on certain characteristics like age, gender, or physical/mental make-up.[42]

Transparency on AI

Since AI technology could breach the law and severely affect the human experience, AI developers have an ethical duty to be honest in an organized, approachable way. Knowledge exchange can aid in making AI transparent and approachable. Also, it is necessary to have all the information transparent, make sure that all developers can control the algorithms. More information on how engineers calculated ethical values before programming them is needed, as well as the results that the AI has generated because of these decisions.[43]

Inclusiveness

Male researchers in developed nations are more likely to conduct AI research. The biases in AI models are a result of this. To enhance model quality and decrease prejudice, the AI community must become more diverse. This and other programs designed to broaden diversity within the community are sponsored by Harvard, but their effects have so far been modest. This can assist in resolving issues like prejudice

[42] "3 Ways to Teach Robots Right from Wrong." *World Economic Forum*, https://www.weforum.org/agenda/2017/11/3-ways-to-build-more-moral-robots/.

[43] "Top 9 Ethical Dilemmas of AI and How to Navigate Them in 2022." *AIMultiple*, https://research.aimultiple.com/ai-ethics/.

and unemployment that might be brought on by computerized decision-making processes.[44]

Alignment

Many nations, businesses, and universities are developing AI systems, but most don't have legal frameworks that reflect the most current advancements in AI. The road to ethical AI development will be made clear by modernizing legal frameworks at both the national and international levels (such as the UN). To bring clarity to their sector, pioneering businesses should lead these initiatives.[45]

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