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Disarmament and International Security Committee (DISEC)

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MUNUC-SFLS 2023

TABLE OF CONTENTS

CHAIR LETTER

Dear Delegates,

It is my pleasure to welcome you to what will surely be an exciting, fun, and educational committee at MUNUC-SFLS 2023 – the Disarmament and International Security Committee (DISEC)! My name is Ariel, and I am so excited to be serving as your Chair throughout the conference!

First, a little about myself: I am a fourth-year here at UChicago pursuing a Joint BS/MS in Astrophysics and Computer Science. I'm from Bergen County, New Jersey, i.e. about 20 minutes from New York City. I've been doing Model UN for eight years and love its ability to teach crucial life skills and help you all become confident public speakers, critical thinkers, eloquent writers, collaborative debaters, and more globally-minded future leaders.

Aside from Chairing the DISEC for you all, I proudly serve as the Secretary-General of MUNUC. As such, getting the opportunity to work directly with all of you is something I'm ecstatic for as we bring MUNUC's mission of pedagogy and creating the world's leaders of tomorrow to life. Outside of MUNUC, I serve as an Executive for the Ad Hoc at ChoMUN, the flagship crisis committee of our collegiate MUN conference at UChicago, and I compete with our MUN traveling team.

Best,

Ariel Barnea

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HISTORY OF COMMITTEE

The Disarmament and International Security Committee (DISEC) is the First Committee of the United Nations General Assembly. It was established in 1946 to discuss disarmament and international safety and security issues.[1] There are two main bodies in DISEC: the Disarmament Commission (UNDC) and the Conference on Disarmament (CD).[2] CD is not formally a part of the United Nations, yet it still reports to the GA every year.

DISEC consists of all 193 member states of the United Nations. Unlike some of the other committees, every country has equal voting power in this committee. Because DISEC is part of the GA, it does not have the power to enforce any rule or guideline of the established resolution on any country. DISEC centers around topics of discussion such as nuclear weapons, other weapons of mass destruction, outer space, conventional weapons, regional disarmament and security, other disarmament measures and international security, and disarmament machinery.[3] There are two landmark resolutions in the history of DISEC. The first one is DISEC's very first GA resolution, entitled

"Establishment of a Commission to Deal with the Problems Raised by the Discovery of Atomic Energy" in 1946.[4] The second resolution is DISEC's very first GA resolution in which all member states co-sponsored the Resolution 1378 (XIV) adopted in 2001.[5]

[1] Rose, Caroline. "Research Binder Friday: DISEC." Best Delegate Model United Nations, January 22, 2016. https://bestdelegate.com/research-binder-friday-disec/.
[2] Ibid.
[3] Ibid.
[4] United Nations. "United Nations, Main Body, Main Organs, General Assembly." United Nations. United Nations. Accessed September 16, 2020. https://www.un.org/en/ga/first/.
[5] Ibid.

TOPIC: WEAPONIZATION OF ARTIFICIAL INTELLIGENCE

Statement of the Problem

Definition of Artificial Intelligence

Many people often associate the term "**artificial intelligence**" with robots in human form. However, that is not all artificial intelligence represents. Artificial intelligence, or more widely known as AI, refers to "the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions."[6] Some machines entail designs that include certain human characteristics such as learning and thinking, and some machines resemble human physical features such as having a face and body. There are two categories of AI: strong AI and weak AI.[7] Strong AI includes machines and systems that can execute complex, human-like tasks, such as self-driving cars. On the other side, weak AI is machines and systems designed to carry out simple tasks, such as Apple's Siri. Regardless of the different machines, AI's are useful to humans in various fields and disciplines. We can use AI in clinical studies, technology, and development to better understand today's world.

Nonetheless, there are issues and controversies about AI as well. Like many novels and movies portray, some people worry that AI can create mass unemployment and maybe even control the world and people's lives. Philosophers have continuous debates about whether AIs can contain minds, consciousness, and emotions similar to those of human beings, making AIs individuals susceptible to the rule of law, ethics, and morality. Superintelligence has the ability to learn and reprogram itself constantly, which means that someday it can surpass human minds and that humans can lose control of it. As technology advances globally, AI will occupy a bigger part of

[6] Frankenfield, Jake. "How Artificial Intelligence Works." Investopedia. Investopedia, August 29, 2020. https://www.investopedia.com/terms/a/artificial-intelligenceai.asp#:~:text=Artificial%20intelligence%20(AI)%20refers%20to,as%20learning%20and%20problem%2Dsolving.

[7] Ibid.

people's lives. AIs will become more versatile, and many more problems and concerns will likely appear.

The weaponization of artificial intelligence is one of the more urgent issues of these problems in today's world. With the development of the **autonomous weapons system (AWS),** nations face complex security issues.[8] Weaponized AIs can be used for typical warfare on land, sea, air, and atypical warfare areas such as space and cyberspace. Having this ability means that AI weapons can be and will be more than people imagine. AIs can target and attack human and non-human objects with no further actions required by designers. An article published by Forbes stated that "this increase in the weaponization of artificial intelligence seems to have become a highly destabilizing development," and that this issue "brings complex security challenges for not only each nation's decision makers but also for the future of humanity."[9]

In the Statement of the Problem, we will discuss the role of AI in militaries, its potential harm, the AI arms race, and 5G.

AI's Roles in Militaries

One of the most known AI systems used in the military is the **Lethal Autonomous Weapons System (LAWS),** also known as the Autonomous Weapon System (AWS). AWS/LAWS is a military system that can search, aim, and attack targets automatically according to instructions in the programs.[10] It can operate in many different areas of focus, such as sea, land, air, and space. The history of LAWS can be traced back to the 1600s, in which the oldest automatically triggered lethal weapon, the land mine (an explosive device buried underground) was developed.[11] LAWS does not need human operation, which means humans do not need to be present in the system during attack. Current

[8] Pandya, Jayshree. "The Weaponization Of Artificial Intelligence." Forbes. Forbes Magazine, March 13, 2019. https://www.forbes.com/sites/cognitiveworld/2019/01/14/the-weaponization-of-artificial-intelligence/#6a8c84563686.
[9] Ibid.
[10] Evans, Hayley, and Natalie Salmanowitz. "Lethal Autonomous Weapons Systems: Recent Developments." Lawfare. Lawfare Hard National Security Choices, October 31, 2019. https://www.lawfareblog.com/lethal-autonomous-weaponssystems-recent-developments.
[11] Ibid.

LAWS are present in tanks, sentry guns, and other missile defense systems (and other Closed in Weapon System, or CIWS).[12] More advanced LAWS in the United States includes unmanned combat aerial vehicles such as; Unmanned Surface Vessels (USV) And Unmanned Maritime Systems (UMS), drones, and the Northrop Grumman X-47B with an Unmanned Carrier-Launch Airborne Surveillance and Strike (UCLASS) system.[13] Other nations, such as the Russian Federation, China, and the United Kingdom, are actively developing LAWS and AI missiles, drones, and robots. Many people may think that the weaponization of AI is a novel problem that today's society has to face, yet in fact, it has been an issue since the beginning of the 21st century.

There are two categories of artificial intelligence: **narrow AI and general AI** .[14] Narrow AI is used in both the civilian and military worlds, and it is designed to carry out a specific task according to the instruction. It has no memories and cannot interpret meaning, make decisions, or apply its knowledge to another situation that is not included in the program. A report released by the **United**

Nations Institute for Disarmament Research (UNIDIR) on "The Weaponization of Increasingly Autonomous Technologies: Artificial Intelligence" states that narrow AI faces the limitation of something called the "catastrophic forgetting," meaning that narrow AI cannot be repurposed for another task other than what it is designed to perform. Examples of narrow AI include drone robots and Google search.[15] On the other hand, general AI is AIs that can multitask. They can understand context and meaning, apply information, and learn to take on different tasks. Most importantly, they can use the knowledge acquired to function in different situations. In the article "Understanding the Strategic Implications of the Weaponization of Artificial Intelligence," Dr. Burton and Dr. Soare state that "general AI in its most sophisticated form may become self-aware—this is a field of AI often referred to as artificial consciousness, machine consciousness, synthetic consciousness or singularity."[16] Many people, including Stephen Hawking, Bill Gates, and Elon Musk, have expressed

[12] Ibid.
[13] Ibid.
[14] Burton, Joe, and Simona R. Soare. "Understanding the Strategic Implications of the Weaponization of Artificial Intelligence." *2019 11th International Conference on Cyber Conflict (CyCon)*, 2019. https://doi.org/10.23919/cycon.2019.8756866.
[15] Scharre, Paul, and UNIDIR. "Publication The Weaponization of Increasingly Autonomous Technologies: Artificial Intelligence." UNIDIR. UNIDIR, 2018. https://unidir.org/publication/weaponization-increasingly-autonomoustechnologies-artificial-intelligence.
[16] Burton, Joe, and Simona R. Soare. "Understanding the Strategic Implications of the Weaponization of Artificial Intelligence." *2019 11th International Conference on Cyber Conflict (CyCon)*, 2019.

concerns specifically about the advent of general AI. In particular, Hawking indicates that "the development of full artificial intelligence could spell the end of the human race. Once humans develop sufficiently advanced artificial intelligence, it could take off on its own and redesign itself at an ever-increasing rate. Humans, who are limited by slow biological evolution, couldn't compete and would be superseded."[17]

In today's militaries, the most widely used artificial intelligence type is the narrow AI, including "reactive and limited memory AI."[18] Narrow AIs are incorporated into multifarious weapons, such as those mentioned before. These AIs are integrated into many military platforms, systems, and processes. They can be used for "logistics and training; augmented reality systems, for example, are already in use in the Royal New Zealand Navy for training engineers to work on naval platforms."[19] More importantly, AIs can also be used for surveillance, both civil and military. In other words, governments and many countries' departments of defense use AI for **Intelligence, Surveillance and Reconnaissance (ISR)**. AI specialists Dr. Burton and Dr. Soare list many examples, including the controversial National Security Agency's (NSA) "Prism" program, which "applied AI systems to big data for counter-terrorism purposes."[20] There are other examples of AI used in militaries, such as the Israeli Harpy drone and Japanese ballistic missile defense drones.[21]

The weaponization of AI in the military contains two parts or processes. The first use or process of weaponizing AI is through integrating it into aspects of warfare, i.e., sea, land, air, and space, to gain power and advantage over opponents.[22] The second weaponization process involves using AI in cyberspace to combat, destroy, and disrupt enemies' cyber-systems through the internet and computer-related network systems.[23] In the first part, the purpose of using AI is to enhance combat

https://doi.org/10.23919/cycon.2019.8756866.

[17] PTI. "Stephen Hawking Warned Artificial Intelligence Could End Human Race." The Economic Times. Economic Times, March 14, 2018. https://economictimes.indiatimes.com/news/science/stephen-hawking-warned-artificial-intelligencecould-end-human-race/articleshow/63297552.cms?from=mdr.

[18] Burton, Joe, and Simona R. Soare. "Understanding the Strategic Implications of the Weaponization of Artificial Intelligence." *2019 11th International Conference on Cyber Conflict (CyCon)*, 2019. https://doi.org/10.23919/cycon.2019.8756866.

[19] Ibid.

[20] Ibid.

[21] Ibid.

[22] Ibid.

[23] Ibid.

power by increasing the dispersion of forces and the accuracy and precision of aiming the target. In the second part, AI can be used to undermine enemies' computer operations and maybe even for espionage. Therefore, the weaponization of AI is both the integration of AI into conventional warfare and the invisible combat between nations in cyberspace.

The weaponization of AI entails many risks. These risks "are associated with the instability that the proliferation of technologies within the international arena creates, the prospect of arms races and security dilemmas, the risk that non-state actors will acquire weaponized agents, the risk that states will not be able to effectively control the weaponized technology, and that AI technologies will be uncontainable and result in unintended consequences when used."[24] In addition, with narrow AI, there is also the risk of hackers hacking into its program, changing the function which it originally was designed to do. With general AI, there is the risk of intentional feeding of malicious data, resulting in the programmer losing complete control over it and the AI potentially harming the public. In addition, there are other risks such as a lack of transparency of algorithms, or AI completing a task through a different procedure other than the one that the programmer has designed it to execute.

AI's Roles in the Civilian World

The weaponization process of AI is a process that converts civilian use or dual-use technology into military-use weapons. However, it does not mean that there is no risk of using AI in the civilian world. There have been concerns expressed over AI in terms of social manipulation. For example, Dr. Burton and Dr. Soare indicate that "sophisticated data algorithms were used to affect social media in the run-up to the 2016 US general election and to exacerbate societal tensions, thus exhibiting the utility of weaponization of information by authoritarian states to undermine democratic ones."[25] Regardless of the political parties and the role which some nations might play in US general elections, the important idea behind this statement is that AI does not only affect the military power dynamic between nations but also a country's election. The danger of AI in the civilian world is that it enables citizens and foreigners to affect and manipulate the politics and governmental operation of

[24] Ibid.
[25] Ibid.

a sovereign nation. This action can produce consequences that result in a change, or worse, intensification of an unstable international power dynamic between countries.

Technology companies such as Samsung and Apple have introduced facial recognition systems, which have raised concerns among ordinary people. Many think that these facial recognition systems might infringe upon individual privacy. Countries have implemented mass surveillance based on a developed network and sophisticated AI system.

In the United States, Edward Snowden has revealed sensitive information about mass surveillance in the U.S. Some information about PRISM special source operation system, leaked by Snowden, indicates that the National Security Agency has "direct access" to "the servers of Google, Facebook, and other."[26] Snowden further claims that the NSA "can use the system to go back in time and scrutinize every decision you've ever made, every friend you've ever discussed something with, and attack you on that basis to sort of derive suspicion from an innocent life and paint anyone in the context of a wrongdoer."[27] Mass surveillance of this scale could not be done without AI. The debate on whether censorship and surveillance are justified is ongoing.

Another AI technology that has gained great attention from the public is deepfakes (deep learning and fake media). This type of technology is present in Snapchat, Instagram, and other software that contain face filters. A common example of these are when videos are edited to pretend public figures said things that they never did. These technologies are cheap, costing almost nothing for programmers to switch faces.[28] In the hands of terrorist groups and foreign governments, deepfakes can cause great harm to the United States and other countries.

They can help to spread disinformation about anything when it is used in social media, and many people cannot realize it is false information at all. Meanwhile, foreign governments and espionage operations can use these technologies as blackmail to gain access to classified information. More

[26] T.C. Sottek, Janus Kopfstein. "Everything You Need to Know about PRISM." The Verge, July 17, 2013. https://www.theverge.com/2013/7/17/4517480/nsa-spying-prism-surveillance-cheat-sheet.
[27] *NSA Whistleblower Edward Snowden: 'I Don't Want to Live in a Society That Does These Sort of Things' – Video*. *The Guardian*. Guardian News and Media, 2013. https://www.theguardian.com/world/video/2013/jun/09/nsa-whistleblowerедward-snowden-interview-video.
[28] Ibid.

recently, in May 2019, Samsung's Moscow Artificial Intelligence Laboratory released a new GAN that needs only one image to create a motion picture of a body or object in that image.[29] The previous GAN model required no more than 16 images taken from different angles to create a moving object from these images.[30] The more images taken at more angles, the more realistic the motion picture can look. Consequently, one person can falsely accuse someone of wrongdoing in court by providing a synthetically generated video or picture of the accused. It is often very hard to tell the difference between what is real and what is not.

Artificial Intelligence Arms Race and 5G

The artificial intelligence arms race is an AI-equipped military force competition between countries. As AI is closely connected to military weapons, having the best AI often means having the best weapon. Hence, what underlies the AI arms races is a competition of who has the best weapon and technology, and therefore, who has military dominance. The AI arms race is also a race for a country's economic power. The country with the best AI technology or technology in general is able to develop and sell the best software and program to the international market. Many scientists and analysts agree that, since the mid-2010s, countries have started to build their AI systems and compete in the AI arms race.[31]

The international policy and political position in the AI arms race of a particular nation are related to its stance on this topic. The "Interim Report" of the United States' National Security Commission on Artificial Intelligence in November 2019 indicates that China, who is the United States' "most serious strategic competitor, has declared its intent to become the world leader in AI by 2030 as part of a broader strategy that will challenge America's military and economic position in Asia and beyond."[32]

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[29] Ibid.
[30] Ibid.
[31] Geist, Edward Moore. "It's Already Too Late to Stop the AI Arms Race—We Must Manage It Instead." *Bulletin of the Atomic Scientists* 72, no. 5 (2016): 318–21. https://doi.org/10.1080/00963402.2016.1216672.
[32] Schmidt, Eric, Robert O. Work, Steve Chien, Mignon Clyburn , Christopher Darby, Kenneth Ford, Eric Horvitz, et al. Rep. *Interim Report*. The National Security Commission on Artificial Intelligence, November 2019. https://www.nationaldefensemagazine.org/-/media/sites/magazine/03_linkedfiles/nscai-interim-report-forcongress.ashx?la=en.

The diplomatic attitude which the U.S. adopts to China and Russia is hostile, and the language the U.S. uses to address China and Russia is a "competitor" of the AI arms race, stating that "strategic competitors [i.e., China and Russia] have caught up with the United States technologically, and threaten U.S. military-technical superiority."[33]

The biggest competitors in the AI arms race are China and the United States. In a report published in February 2019 by Gregory C. Allen from the Center for a New American Security, Chinese leader President Xi Jinping believes that "being at the forefront in AI technology is critical to the future of global military and economic power competition."[34] China and Chinese companies filed nearly five times as many AI patents as American entities.[35] In 2016, China published a position paper to address LAWS, making it the first permanent member of the U.N. Security Council to raise the autonomous weapon systems issue.[36]

On the other hand, the U.S. has invested a considerable amount in the development of artificial intelligence. The U.S. Department of Defense increased investment in AI from $5.6 billion in 2011 to $7.4 billion in 2016.[37] Along with investment in the civil world, the U.S. develops many military AI combat programs, such as the Sea Hunter autonomous warship, which is designed to function for extended amounts of time on sea without crew member, and Project Maven, a Pentagon project aiming to build an AI surveillance platform for the military to have remote control over unmanned aerial vehicles.[38] According to a temporary U.S. Department of Defense directive, the Sea Hunter "requires a human operator to be kept in the loop when it comes to the taking of human life by autonomous weapons systems."[39] AI systems in Project Maven can fire and attack self-designated targets.

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[33] Ibid.
[34] Allen, Gregory C. "Understanding China's AI Strategy." Center for a New American Security. Center for a New American Security, February 6, 2019. https://www.cnas.org/publications/reports/understanding-chinas-ai-strategy.
[35] Ibid.
[36] Ibid.
[37] Media, OpenSystems. "Military Embedded Systems." Artificial Intelligence Timeline, January 24, 2019. https://militaryembedded.com/ai/machine-learning/artificial-intelligence-timeline.
[38] Greene, Tristan. "Report: Palantir Took over Project Maven, the Military AI Program Too Unethical for Google." The Next Web, December 11, 2019. https://thenextweb.com/artificial-intelligence/2019/12/11/report-palantir-took-overproject-maven-the-military-ai-program-too-unethical-for-google/.
[39] Ibid.

Countries like Russia, the U.K., Israel, Japan, and South Korea are all involved in developing their AI systems. The arms race in the AI field is more severe than it appears to be. In short, artificial intelligence is increasingly integrating into human life. The issue at hand is to determine how to use AI technology properly to ensure the international community's safety and security.

In summary, the weaponization of AI is a critical problem that the world should focus on addressing and seeking to provide a solution for. Some authors in *The Atlantic* have signed a petition against AI weapons; as they succinctly argue, "The problem with such AI weapons is not that they are on the verge of taking over the world. The problem is that they are trivially easy to reprogram, allowing anyone to create an efficient and indiscriminate killing machine at an incredibly low cost. The machines themselves aren't what's scary. It's what any two-bit backer can do with them on a relatively modest budget."[40]

[40] Roberts, Bryan W., and Zach Musgrave. "Why Humans Need To Ban Artificially Intelligent Weapons." The Atlantic. Atlantic Media Company, August 14, 2015. https://www.theatlantic.com/technology/archive/2015/08/humans-notrobots-are-the-real-reason-artificial-intelligence-is-scary/400994/.

History of the Problem

The weaponization of AI is a relatively new global issue. To understand AI weapons, we will first discuss the history of AI, which began in the 20th century, and the beginning of the AI arms race.

History of AI

Many argue that artificial intelligence and the inception of intelligence machines began with Alan Turing in the 1950s.[41] Alan Turing was a British mathematician, philosopher, and computer scientist. His famous work was the Turing machine, which underlies the basis of many modern artificial intelligence technologies. In 1950, Turing published a paper "Computing Machinery and Intelligence," in which he explored and investigated ways to build intelligent machines and test their intelligence, known as Turing's test.[42] Before 1949, computers were expensive, meaning that only universities and big technology companies could afford them, and they lacked "a key prerequisite for intelligence: they couldn't store commands, only execute them."[43] Due to these economic and technological constraints, progress in the capabilities of these machines was much slower than it is today. By the 1950s, many mathematicians, scientists, and philosophers began to conceptualize artificial intelligence further.[44] That was the time of the beginning of true technological exploration and development.

In 1951, one of the very first game AI was introduced. Christopher Strachey and Dietrich Prinz wrote a checkers program and a chess program using the Ferranti Mark 1 machine developed by the University of Manchester.[45] Five years later, in 1956, at the Dartmouth Conference or Dartmouth Summer Research Project on Artificial Intelligence (DSRPAI), scientists, logicians, and many other people discussed artificial intelligence as a true field of study.[46]

[41] Anyoha, Rockwell. "The History of Artificial Intelligence." Science in the News. Harvard University, April 23, 2020. http://sitn.hms.harvard.edu/flash/2017/history-artificial-intelligence/.
[42] Ibid.
[43] Ibid.
[44] Ibid.
[45] Ibid.
[46] Ibid.

From 1956 to 1974, AI quickly developed as machine algorithms improved.[47] Several computer programs began to progress towards being able to interpret spoken language and solve complex problems. Many researchers and computer scientists, including those who attended the Dartmouth

Conference, convinced governments and governmental agencies such as the **United States Defense Advanced Research Projects Agency (DARPA)** that AI is a developing field and a prospect for future technological development. By that time, many AI projects were funded by governments. In 1970, Minsky told *Life Magazine* that "from three to eight years we will have a machine with the general intelligence of an average human being."[48]

1974 to 1980 marked the first AI winter.[49] An AI winter is a period in history where the funding and research for AI significantly fell. Scientists felt a constraint to their progress for AI due to many reasons such as limited computer power and Moravec's paradox. Moravec's paradox indicates that "proving theorems and solving geometry problems are comparatively easy for computers, but a supposedly simple task like recognizing a face or crossing a room without bumping into anything is extremely difficult."[50] During this time, many governments and governmental agencies such as the

British government, DARPA, and the National Academies of Sciences, Engineering, and Medicine (NRC) withdrew funding for AI research. There were many critiques raised against AI research, questioning whether AI is an actual promising field.

In the 1980s, there was another boom for AI technology.[51] Corporations adopted a form of AI program called "expert systems," which became a new direction for AI research. "Deep learning," a method through which computers learn from experience, went through a revival. Following this boom of AI research was the second AI winter in the early 1990s.[52] As one can see, AI research is full

[47] Ibid.
[48] Ibid.
[49] Ibid.
[50] Ibid.
[51] Ibid.
[52] Ibid.

of ups and downs. The information above is only a short description of AI history. You are encouraged to supplement this with your research if you find this interesting.

In addition, there are two events/developments which characterize modern AI technology: Moore's Law and Google's *Alpha Go*. In 1997, Deep Blue, a computer chess-playing system, became the first AI to beat the world chess champion, Garry Kasparov.[53] Deep Blue was about 10 million times faster than the previous chess program designed by Christopher Strachey and Dietrich Prinz in 1951.[54] This enormous increase in processing power is theorized and measured by Moore's Law, which indicates the memory and speed of computers doubles every year and the cost for buying them decreases. Twenty years later, in 2017, Google's AlphaGo, a computer program developed by DeepMind, defeated the Chinese Go champion Ke Jie.[55] After the game, Ke Jie was surprised. He expressed that "there was a cut that quite shocked me, because it was a move that would never happen in a human-to-human Go match."[56] The same year, *The Atlantic* published an article claiming that "AI has nothing to learn from humans."[57]

[53] Ibid.
[54] Ibid.
[55] Ibid.
[56] Cheng, Selina. "The Awful Frustration of a Teenage Go Champion Playing Google's AlphaGo." Quartz. Quartz, May 27, 2017. https://qz.com/993147/the-awful-frustration-of-a-teenage-go-champion-playing-googles-alphago/.
[57] Chan, Dawn. "The AI That Has Nothing to Learn From Humans." The Atlantic. Atlantic Media Company, October 20, 2017. https://www.theatlantic.com/technology/archive/2017/10/alphago-zero-the-ai-that-taught-itself-go/543450/.

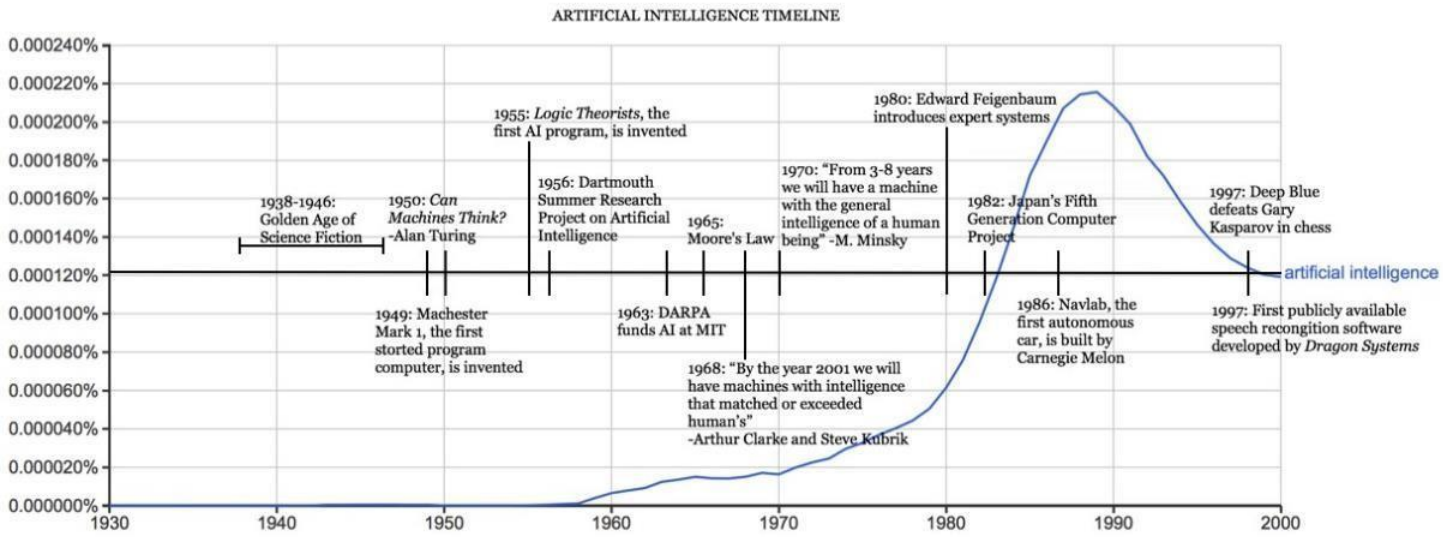

Figure: Brief Timeline of the Development of AI [58]

Beginning of AI Arms Race

The heated discussion about AI arms race and LAWS began shortly after the development of these intelligent systems. After the release of AlphaGo, DeepMind also released a series of other algorithms, such as AlphaGo Zero and AlphaZero. The later versions of this computer program can self-learn the Go game without human assistance or training data. This advancement of algorithms sparked lots of interest in the AI field in China and has long been a discussion ever since. However, the global AI arms race would not have been as intense without other incidents. In 2016, the U.S. government released reports on AI, discussing how it will be integrated into people's lives in the future.[59] In these reports, the Obama administration highlights a national strategic plan; Chinese officials took it as a sign that the U.S. is advancing in the AI field. The very last incident that accelerated the tension between China and the U.S. in the AI field was when President Xi Jinping announced that China plans to become a world leader in the AI field in 2030.[60]

[58] Anyoha, Rockwell. "The History of Artificial Intelligence." Science in the News. Harvard University, April 23, 2020. http://sitn.hms.harvard.edu/flash/2017/history-artificial-intelligence/.
[59] Ibid.
[60] Ibid.

In addition to China planning to increase its AI development, Russia also escalates the AI arms race. Months after China's declaration of its goal, Russian President Vladimir Putin stated that "Whoever becomes the leader in this space will become the ruler of the world."[61] Like China and the US, Russia also develops plans and projects to create and advance military weapons based on AI. The *Foreign Policy* claimed that Russia has a "clear focus, the narrowest of the three [China, the U.S., and Russia], on applying AI to military hardware," and that its goal "is not to create ways to make better decisions, but simply to make better weapons."[62] For instance, one of Russia's most famous arms manufacturer, Kalashnikov, seeks to develop stationary machine guns that can "use neutral networks to choose and engage targets."[63] This weapon can continuously aim and destroy targets without human interference.

[61] Rayome, Alison DeNisco. "The US, China and the AI Arms Race: Cutting through the Hype." CNET, June 8, 2020. https://www.cnet.com/news/the-us-china-and-the-ai-arms-race-cutting-through-the-hype/.
[62] Ibid.
[63] Pecotic, Adrian. "Whoever Predicts the Future Will Win the AI Arms Race." Foreign Policy. Foreign Policy, March 5, 2019. https://foreignpolicy.com/2019/03/05/whoever-predicts-the-future-correctly-will-win-the-ai-arms-race-russiachina-united-states-artificial-intelligence-defense/.

Past Actions

Although the weaponization of AI is a relatively new topic compared to biosecurity, international organizations and agencies have been actively addressing the AI problem. In this section, we will briefly discuss some of the international actions taken to resolve the weaponization of AI by the United Nations agencies and other forms of organizations. Most of these actions are plans of discourse or actual discourses about AI instead of agreements like non-proliferation treaties. Therefore, after reading about past actions, delegates are encouraged to think and produce solutions that can alleviate this issue of weaponization, which will be further discussed in the next section.

Since 2017, the United Nations has developed a summit called AI for Good Global Summit, which focuses on the topic of AI and uses of AI in a better way.[64] The annual AI for Good Global Summit aims to discuss AI research that contributes to solving international issues and helps the world

[64] ITU. AI for Good Global Summit 2018. ITU, 2018. https://www.itu.int/en/ITU-T/AI/2018/Pages/default.aspx.

achieve the UN Sustainable Development Goals. This summit started in 2017 and has been held in Geneva every year until 2020, which this summit was moved to online.[65] Other UN bodies and conferences such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Interregional Crime and Justice Research Institute (UNICRI), and UN Geneva have also published articles and reports about AI.

A UNESCO article, published on the UN website, highlights the importance of AI in the discussion of human rights. Three of the most important questions this UNESCO article raises are, "How can we ensure that algorithms do not infringe fundamental human rights—from privacy and data confidentiality to freedom of choice and freedom of conscience? Can freedom of action be guaranteed when our desires are anticipated and guided? How can we ensure that social and cultural stereotypes are not replicated in AI programming, notably when it comes to gender discrimination?"[66] Three of the most important questions in which this UNESCO article raises are that "How can we ensure accountability when decisions and actions are fully automated? How do we make sure that no one—wherever they are in the world—is deprived of the benefits of these technologies? How do we ensure that AI is developed in a transparent way, so that global citizens, whose lives it affects, have a say in its development?"[67] As we can see, a lot of these questions and issues are like those discussed in the Statement of the Problem of this background guide. The United Nations is becoming more aware of these issues and is using its different agencies to provide resolutions to the issue of the weaponization of AI from different focus points. UNESCO, in particular, has produced many reports and declarations on AI, such as the Report of the World Commission on the Ethics of Scientific Knowledge and Technology on Robotics Ethics in 2017 and two other conferences held in Morocco and Paris in 2018 and 2019.[68] UNESCO aims to include Africa in this AI conversation and fully educate and prepare young people for a more artificial intellectualized world.[69]

[65] Ibid.
[66] Azoulay, Audrey. "Towards an Ethics of Artificial Intelligence." United Nations. United Nations. Accessed September 10, 2020. https://www.un.org/en/chronicle/article/towards-ethics-artificial-intelligence.
[67] Ibid.
[68] Ibid.
[69] Ibid.

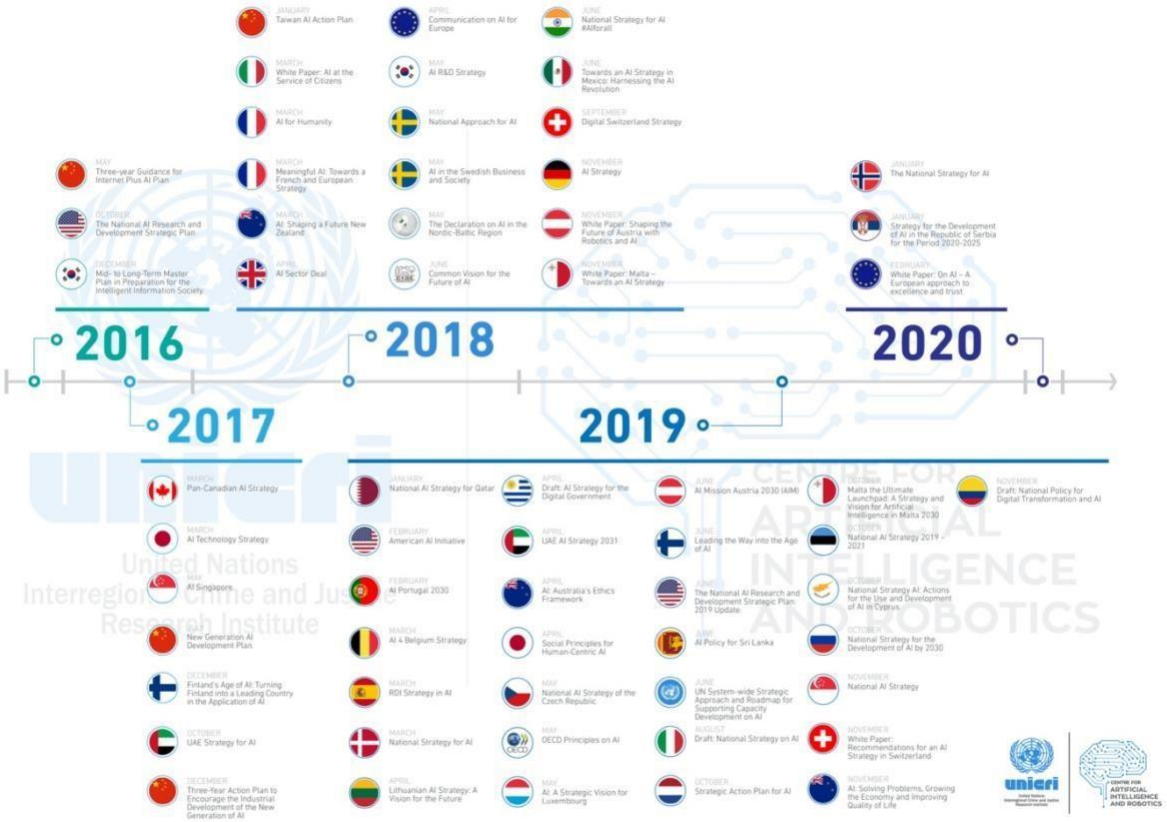

Figure: Brief Timeline of International AI Policies[70]

The UNICRI, a body that focuses on crime and justice, also adopts various plans and strategies to research AI and incorporate AI into fighting crime.[71] Instead of investigating how AI can create harm and violate human rights, the UNICRI explores the origin of these violations. The UNICRI discusses the origin of violations, stating that these violations can be "intentional, for instance through deployment of AI surveillance systems in an unjustifiable or disproportionate manner, or unintentional, for instance through the use of biased data for the purposes of training machine learning algorithms, thereby compounding bias through automated processes."[72] The UNICRI further identified two categories of concern for the weaponization of AI: one is for the legitimate use of AI and the other is for the malicious use of AI. It underscores that there exists the risk of AI being

[70] Ibid.
[71] Scharre, Paul, and UNIDIR. "Publication The Weaponization of Increasingly Autonomous Technologies: Artificial Intelligence." UNIDIR. UNIDIR, 2018. https://unidir.org/publication/weaponization-increasingly-autonomoustechnologies-artificial-intelligence.
[72] Ibid.

used for criminal and terrorist acts. Thus, it stresses that "the solution lies in ensuring the design, development and deployment of these technologies in a responsible manner, that enshrines the general principles of respect for human rights, democracy and the rule of law."[73] The UNICRI has established the Centre for AI and Robotics in The Hague, which aims to understand and research the risks and benefits of using AI and related technologies in the context of crime and terrorism, and ways to support member states to use AI in a responsible manner.[74]

UN Geneva has held conferences the last few years such as the Convention on Certain Conventional Weapons' Group of Governmental Experts on emerging technologies in the area of lethal autonomous weapons systems. In 2019, this convention addressed various AI and LAWS related issues.[75] One of the most important issue this conference discussed was "the potential challenges posed by emerging technologies in the area of lethal autonomous weapons systems to international humanitarian law" and the "humanitarian and international security challenges posed by emerging technologies in the area of lethal autonomous weapons systems in the context of the objectives and purposes of the Convention without prejudicing policy outcomes and taking into account past, present and future proposals."[76] Unlike the other UN bodies, this conference explored the AI issue pertaining to international security and humanitarian law.

Many countries participated in discussions about the weaponization of AI for the past decade. Some plans might have been made, yet many have not been executed. Unlike other international security issues, AI technology occupies a major portion of the world's most powerful countries' militaries and civil lives. Therefore, delegates are encouraged to think about ways in which AI can still be used in people's day to day life, but without infringing on their rights or affecting their safety.

[73] Ibid.
[74] Ibid.
[75] UN Geneva. "CCW GROUP OF GOVERNMENTAL EXPERTS ON EMERGING TECHNOLOGIES IN THE AREA OF LETHAL AUTONOMOUS WEAPONS SYSTEMS TO MEET FROM 25 TO 29 MARCH IN GENEVA: UN GENEVA." CCW GROUP OF GOVERNMENTAL EXPERTS ON EMERGING TECHNOLOGIES IN THE AREA OF LETHAL AUTONOMOUS WEAPONS SYSTEMS TO MEET FROM 25 TO 29 MARCH IN GENEVA | UN GENEVA, 2019. https://www.ungeneva.org/en/node/42254.
[76] Ibid.

Possible Solutions

When delegates address possible solutions during the conference and in their position paper, do not feel limited by the possible solutions presented below. The weaponization of AI is a relatively new issue in today's world, and this means that there are countless ways to solve this issue.

Unprecedented solutions are encouraged. Prior to providing possible solutions, there are many questions in which delegates should consider:

- Who should have full control of AI weapons? Should it be limited to legitimate governments? Is it possible to contain AI weapon possession to any one group of people?

- Are governments being transparent about the way they use AI technology and weapons? How will standards for this be set?

- If errors occur in the process of using AI weapons, who should be responsible for it?

- If there is an error in the design of AI weapons, who should be responsible for it, and who should be responsible for the harm that this weapon has caused?

- How can we prevent hackers and terrorists from hacking into AI systems? What are the repercussions for damage inflicted by outside hackers or terrorists? Who is responsible for the repair of damages?

- In the civilian world, who should have access to people's data? Should companies be forced to give people's personal information to the government?

- How can we draw the baseline to protect people's privacy and individual rights and at the same time establish a safe and secure environment?

- Should we establish a set of rules for AI weapons in warfare like those set in the Geneva Convention? How do we determine which AI weapons should be used and which should not?

- How do countries maintain peace while one has AI or other technological dominance over the other?

- How should countries deal with AI espionage?

To resolve the issue of the weaponization of AI, delegates need to get creative and think critically. This is not an issue that can be solved by simply stating countries should improve education, or the United Nations can deploy a task force. Cooperation between member states will be necessary. In fact, in this case, it is very important for countries' leaders to be aware of the power of AI weapons and understand ways to utilize these weapons. Therefore, one solution could be to continue global discussions about AI technology by holding various conferences. The purpose of these discussions and conferences can be to provide decision-makers with sufficient information and insights about AI technology and the consequences of using AI weapons. As a UN body, it is also important for us to set a goal and provide full support for national governments to achieve this goal. Meanwhile, the discussion about the risks of AI weapons should not only be held with national governments and leaders, it should also be held with laboratories and international scientific organizations. The global community as a whole should constantly be monitoring the developmental progress of AI technologies. This UN body and countries should be looking for ways to establish interdisciplinary research between AI and other fields. We should have a more comprehensive knowledge of the potential impact that AI brings to other industries and the overall global economic system (so that security can be ensured).

In addition to hosting global conferences, the UN can also form an international agency responsible for monitoring drones and mass destruction AI weapons. Countries can also try to establish an international treaty, similar to the Geneva Convention or the Treaty on Non-Proliferation of Nuclear Weapons, which ensures that no mass destruction AI weapons are allowed to be used and abides by the humanitarian law.

The above approaches are not exhaustive. Delegates can explore other solutions to this problem as stated before.

Bloc Positions

Supporting the Use of AI

Israel has been developing its own LAWS weapons. It urges countries to think more about the advantages of using LAWS and is very much a pro-AI weapons country.[77]

The United States has one of the most advanced AI systems and technologies in military and civilian sectors. The United States is also China and Russia's biggest competitor in the AI arms race. It has many of the world's biggest technology and weapon manufacturing companies, such as Apple, Tesla, Northrop Grumman, etc. In 2018, the Pentagon stated that it is committed to spending $2 billion through DARPA every year for the next five years for developing AI weapons.[78] The U.S. "underlined the need to develop 'a shared understanding of the risk and benefits of this [AI] technology before deciding on a specific policy response,'" and they "'remain convinced that it is premature to embark on negotiating any particular legal or political instrument.'"[79]

Russia is also actively participating in the AI arms race. It focuses more on developing AI weapons instead of popularizing their civilian AI technologies. Russia believes that people should not ignore the benefits of LAWS, expressing that "the concerns regarding LAWS can be addressed through faithful implementation of the existing international legal norms."[80]

Neutral Stance

AI technology in the United Kingdom should not be ignored. The United Kingdom seems to have a neutral stance in the discussion of AI. The UK believes that there are advantages in using AI weapons, but also disadvantages. The UK argues that "the application of lethal force must be

[77] Gronlund, Kirsten. "State of AI: Artificial Intelligence, the Military and Increasingly Autonomous Weapons." Future of Life Institute. Kirsten Gronlund https://futureoflife.org/wp-content/uploads/2015/10/FLI_logo-1.png, May 28, 2019. https://futureoflife.org/2019/05/09/state-of-ai/?cn-reloaded=1.
[78] Ibid.
[79] Ibid.
[80] Gronlund, Kirsten. "State of AI: Artificial Intelligence, the Military and Increasingly Autonomous Weapons." Future of Life Institute. Kirsten Gronlund https://futureoflife.org/wp-content/uploads/2015/10/FLI_logo-1.png, May 28, 2019. https://futureoflife.org/2019/05/09/state-of-ai/?cn-reloaded=1.

directed by a human, and that a human will always be accountable for the decision," and that "the current lack of consensus on key themes counts against any legal prohibition…" and "it would not have any practical effect."[81] The rest of Europe also seems to be in a similar position. The EU has provided a more comprehensive guide on using AI technology more appropriately amongst its members.

Disagreeing Voices

Countries in the African continent have also been slightly opposed to the view of some countries. Most African countries urge decision-makers to think about the disadvantages that AI weapons can bring to international society. Countries like South Africa, Nigeria, and others can be especially vulnerable and susceptible to attack by AI weapons. Countries like Ghana, Kenya, and Nigeria "reportedly expressed a desire to negotiate a new international law—a new treaty or CCW [UN Convention on Certain Conventional Weapons] protocol—to address concerns over LAWS."[82] There are also incidents where US drones attacked Somalia and killed innocent lives.[83] Some South American countries, such as Argentina, Brazil, and Chile share the same stance as countries in Africa.[84]

[81] Gronlund, Kirsten. "State of AI: Artificial Intelligence, the Military and Increasingly Autonomous Weapons." Future of Life Institute. Kirsten Gronlund https://futureoflife.org/wp-content/uploads/2015/10/FLI_logo-1.png, May 28, 2019. https://futureoflife.org/2019/05/09/state-of-ai/?cn-reloaded=1.
[82] Goitom, Hanibal. "Sub-Saharan Africa." Regulation of Artificial Intelligence, January 1, 2019. https://www.loc.gov/law/help/artificial-intelligence/africa.php.
[83] Mohamed, Hamza. "A Family Mourns as US Drone Attacks in Somalia Continue." Africa | Al Jazeera. Al Jazeera, April 1, 2020. https://www.aljazeera.com/indepth/features/family-mourns-drone-strikes-somalia-continue200304062126438.html.
[84] Surber, Regina. "Artificial Intelligence: Autonomous Technology (AT), Lethal Autonomous Weapons Systems (LAWS) and Peace Time Threats ." ICT4Peace Foundation. ICT4Peace Foundation and the Zurich Hub for Ethics and Technology (ZHET), 2018. https://ict4peace.org/wp-content/uploads/2019/08/ICT4Peace-2018-AI-AT-LAWS-Peace-TimeThreats.pdf.

Glossary

Artificial Intelligence (AI): According to Merriam-Webster, it is "a branch of computer science dealing with the simulation of intelligent behavior in computers", and it has "the capability of a machine to imitate intelligent human behavior"[85]

Autonomous weapons system (AWS)/Lethal autonomous weapons system (LAWS): It is a military weapon system that can automatically find, aim, and attach human and non-human targets

Defense Advanced Research Projects Agency (DARPA): It is a U.S. organization that researches and develops weapons used in the U.S. military

Intelligence, surveillance, and reconnaissance (ISR): It is a practice that is used in battlefield for acquiring and processing information to better support the commander

United Nations Institute for Disarmament Research (UNIDIR): It is a UN agency established by the UN General Assembly for research related to disarmament and international security

[85] Merriam-Webster.com Dictionary, s.v. "artificial intelligence," accessed September 15, 2020, https://www.merriamwebster.com/dictionary/artificial%20intelligence.

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