

Futuristic Security Council

The question of the militarization of artificial intelligence



Forum	Futuristic Security Council
Issue:	The question of the militarization of artificial intelligence, 2040
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Position:	President

Introduction

It is the year 2040, and decades have passed since the first forms of Lethal Autonomous Weapons (LAWs) emerged. During all this time, there have yet to come any clear regulations on the use of these dangerous tools of war. Autonomous weapons represent one of the most significant advancements and potential threats in modern military and strategic domains. The weaponization of Artificial Intelligence (AI) further increases the destructive potential of these LAWs. There has not yet been a conflict in which these weapons have been utilised, however, it is an imminent prospect. LAWs offer substantial strategic advantages by improving operational efficiency and reducing human casualties in hostile environments.

However, these benefits are accompanied by serious ethical, legal and security concerns. These include the potential for autonomous systems to make use of force without human oversight and the risk of these tools being hacked or malfunctioning. Without any frameworks, AI could start a downward spiral of arms races and new conflicts. This report aims to inform about the history, advantages and dangers of the weaponization of AI, and to suggest possible solutions for preventing the possible oncoming disaster.



Definition of Key Terms

Lethal Autonomous Weapons

There is no one definition of what LAWS exactly are, but they are generally understood as weapons that select targets and apply (lethal) force without human oversight. These raise serious ethical questions such as where the responsibility lies and who should be blamed if accidents occur.

Artificial Intelligence (AI)

AI is defined by the United Nations (UN) as: “The ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience.” AI, when weaponised, can further enable the already destructive power of LAWS

Flash war

This is a term used to describe the quickly escalating nature of wars involving AI. When one automated system reacts to another, a third one might react in mere seconds to the second, starting an undesirable chain of events. These events could then quickly escalate into a conflict or potentially even a war.

Human-in-the-loop

Human-in-the-loop systems (HITL) are systems that require human intervention or oversight at critical points in their operation, particularly important in AI weapon systems to ensure ethical compliance.



Human-on-the-loop

Human-on-the-loop systems (HOTL) are systems where humans monitor and can intervene in the operations of an AI system but are not directly involved in its functioning at all times.

General Overview

To get a better grasp of what AI is, this report will first look into its history.

History of artificial intelligence

Humankind has always been interested in machines completing tasks for them, whether it is solving complex mathematical formulas or protecting them from enemies. A good early instance of an autonomous machine is the Greek legend of Talos. In this myth, Talos was portrayed as a large bronze man, built by the god Hephaestus. It was tasked with patrolling the island of Crete three times a day and hurling boulders at any approaching enemy ships.¹ This fictional character might be very close to the autonomous weapon systems we are faced with today and goes to show humankind's collective awe of autonomous machines.

Another example of a supposed automaton is the Mechanical Turk. This creation made in 1770 featured a robot capable of beating many people in the game of chess. At the time, people were shocked to discover that a robot could match, and beat even, a human player in the game of chess.² Whilst this iteration of Artificial Intelligence was no more than a hidden person operating an intricate mechanical construction to appear as a robot, it does go to show the interest in truly creating such things.

Many years later, in 1950, Alan Turing devised a hypothetical test to see whether a computer possessed human-like intelligence. This test consisted of three participants: an interrogator, a person and a computer. The person and the computer were both in separate rooms, and the interrogator



was tasked with finding out which one was the real human using a set of questions. The computer on the other hand was tasked with deceiving the interrogator into believing it to be the human. Should the computer “win” this hypothetical test more often than not, then it might be a thinking computer.

At the time Turing hypothesized this test, there were no machines even remotely close to completing it. However, as the years passed, machines came closer and closer. However, machines playing chess and fooling humans are not the main focus of this research report, which will now focus on the use of automata in war.

Artificial intelligence in warfare

In warfare, there are several practical uses for autonomous weapons. A good example is loitering munition. Loitering munition is a type of missile that is designed to, after it has been fired, loiter in the sky until a



An example of a loitering weapon system (source: IAI)

target such as an anti-air defense system is spotted. Then the missile hurls itself at the target and neutralizes it. These loitering munitions typically require a human operating the system to choose a target. This is a good example of where AI could be used as a replacement for humans. AI is not a prerequisite, as the LAWs can also follow set codes and parameters. However, as stated before, AI can greatly improve its potential. AI can be trained to be better than humans in deciding the advantages and risks of a strike, thereby making the weapons more effective.

Another example of where AI could be used on the battlefield is with drone swarms. Some twenty years ago, in the Russo-Ukrainian conflict, drones already played a crucial role³. These were usually bigger drones operating in smaller groups, allowing for trained militants to still stand a chance against them. However, the real threat lies in drone swarms. However big and expensive the

tank/helicopter/aircraft carrier may be, it is still not capable of fending off a giant swarm of thousands of small drones, because it can simply not eliminate all of them. These operations still require large amounts of personnel piloting the drones or only have simple instructions with mere directions towards a target.

Because these drones are usually still piloted by humans, other humans can still fight against them, shooting them down for example. However, should these giant swarms be piloted by trained AI, human soldiers would stand no chance. This would require the opposite forces to also acquire AI-operated systems capable of taking down AI-operated attacks. This is where one of the major problems lies—this system of AI vs. AI would make it so that the country with the best AI would automatically win the war. Of course, no country wants to be on the losing side, so every country will invest lots of money in these LAWS.⁴

This is a lot like what happened in the Cold War. There was a new type of weapon -nuclear bombs/AI-controlled drones- and both sides of the war were working their hardest to get better weapons than the other. This cold war created quite a lot of tension, with many incidents almost sparking a new war. The difference between the Cold War and AI-based wars is the threat of a flash war.

Throughout history, leaders have shown not to take important decisions that could lead to war lightly. Leaders are still human beings and still think about all the hurt a nuclear weapon would inflict, should it be launched simply to avoid a conflict. This restraint has saved society a multitude of times. Take for example the story of Soviet soldier Stanislav Petrov. One morning in a Soviet nuclear missile facility, all alarms went off. The US had launched a nuclear bomb. This officer suspected that it was a false alarm, and went against his directives to fire their own missiles, and refused to do so. Later, it turned out that it was indeed a false alarm, caused by light refracting from the clouds. This man is oftentimes credited with saving the world⁵. Now take this situation and put in



his place an AI. When AI receives the alarms, it will not hesitate and go against its orders, it will launch the nuclear arsenal and start the end of the world.

This is of course an exaggerated example, but it does show a potential danger of weaponizing AI. There is also an ethical side to this topic. When a soldier fires a missile that (accidentally) destroys a civilian target, this goes against the international laws. The soldier made a mistake and will face the consequences. However, when a fully autonomous missile accidentally breaks international laws, who is to blame? Is it the country of origin, for owning the weapon? Is it the creator of the weapon, for creating a flaw? Is it the commander of the army, for letting this happen under his watch? This shows that setting aside dangers like nuclear war, and the weaponization of AI also poses significant ethical and human rights questions.⁶

Major Parties Involved

Campaign to Stop Killer Robots

The campaign to stop killer robots is an NGO focussed solely on halting the use and development of LAWS. They are closely involved with the Convention of Certain Conventional Weapons on the topic of autonomous weapons, pleading for all countries to join their campaign to end this issue. The campaign was created in 2012 by 7 NGOs aiming at “securing a preemptive prohibition on the development, production and use of fully autonomous weapons.” The campaign also was a part of the first multilateral meeting on.⁷

Israel

Israel has historically expressed their desire to keep using autonomous weapons, having deployed many during the conflict with Palestine in 2024. They are also one of the countries leading



the innovation on this topic, spending a lot of resources on development and production. Israel is also a known exporter of these weapons. The country finds that autonomous weapons could comply better with international laws than human soldiers.⁸

USA

The USA is also openly against banning LAWs and intends to utilize them in future conflicts. After the war in Ukraine, they even expedited their research program on the topic. The government has expressed their concerns that they do not want to be on the losing side of the development of autonomous weapons. The USA believes that currently existing laws on weapons are sufficient for this topic.⁹

China

China supported beginning talks on LAWs, describing them as “highly complex”. China has stressed the potential for autonomous weapons to upset the international strategic balance and the potential for them to affect arms control. In 2018, China called for a ban on fully autonomous weapons but later clarified the call was solely meant to limit use, not production and development. Since then, China has not refrained from starting plans to research, produce and use LAWs.

Russia

Russia stated that LAWs could have a serious impact on society and that they could seriously undermine international law. However, they have opposed proposals to negotiate a legally binding instrument on such weapons. Russia is researching, developing and investing in these weapon systems and has made them one of the top military priorities. Russia argued that human control and human involvement are subjective and therefore are irrelevant.



Timeline of Key Events¹⁰

Date	Description of event
1950	Alan Turing introduces his namesake test in a paper
1955	The term “Artificial intelligence” is first used
1967	The first program approximating a chatbot, ELIZA, is made
1980s	The Isreal Aerospace Industries (IAI) builds the first modern loitering weapon
1997	Deep Blue becomes the first program to beat a human chess champion in a match, playing against Gary Kasparov
September 2002	One of the most sold AI household appliances, the Roomba, was first introduced
October 2004	Apple releases the first popular virtual assistant Siri
2014	The Convention on Certain Conventional Weapons start talks about LAWs
2015	Many prominent figures on the topic of AI - including Musk, Wozniak and Hawking - sign an open letter to governments urging a ban on AI-weapons
2020	OpenAI starts beta-testing of Chat-GPT, one of the most prominent AI-chatbots
September 2020	The first large-scale conflict using loitering munition in Nagorno-Karabakh shows the tactical leverage these weapons offer
February 24, 2022	The Russo-Ukrainian War starts, a war in which Autonomous drones are also used

UN involvement, Relevant Resolutions, Treaties and Events

Sadly the UN has not seen many resolutions on this topic, as it has not yet moved on from the earlier stages of identifying the problem.

- Lethal autonomous weapons systems, 12 October 2023 (A/C.1/78/L.56)



- Lethal autonomous weapons systems, 23 December 2023 (A/RES/78/241)

Previous Attempts to solve the Issue

The United Nations has attempted to get a grip on autonomous weapons, but in the past, these efforts have failed. Efforts such as the consensus-based Convention on Certain Conventional Weapons have failed to reach a unanimous decision. They have reached certain guidelines such as suggesting that autonomous weapons should be subject to human rights law and that humans must have ultimate responsibility for their use. However, these guidelines have no real power and are only the stepping stones for more discussion, as with the consensus-based system, any country can block the shift from discussion to negotiation. Therefore, it is up to the Security Council to take the step to negotiation as soon as possible.

Possible Solutions

The most important step in fixing this issue is making a legally binding solution. This is because a non-binding resolution banning the use of LAWS for example has no use as it does not stop any country from utilizing them, therefore not stopping the arms race. An important step is finding a universal definition of LAWS, as after an agreed-upon definition has been found, countries can come together to find a solution. Things to focus on can be restricting the usage of weaponized AI or finding a way to ban them altogether. Another important thing is to create a legislative framework for assigning responsibility for AI-led attacks. Something to focus on is also maintaining meaningful human control over the use of force, to prevent analytical decisions from causing a mass loss of life. Delegates must find a way to cooperate with all other delegates, to hopefully find a consensus on



how to stop this pressing issue. It is also vital to not only limit use but also prohibit the development of these autonomous weapons, as that can halt any arms race that would otherwise occur.



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