Research Report

General Assembly 1 (GA1)

Addressing the use of autonomous weapons

Aarush Srivastava

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Introduction

Machine programming and artificial intelligence are advancing quickly in modern warfare. Some militaries have already made progress in automating robots, drones, machinery, software, and human systems, such as surveillance. Others have deployed defensive systems, such as India's Iron Dome. The Iron Dome is capable of destroying assault rockets or warheads faster than a militant in command.

Trends like these put the community, attorneys, other nations, scientists, moralists, and policymakers in a difficult position, causing countless disagreements among UN officials at conferences debating technology's ability to enhance human existence. Applications include self-driving vehicles, artificial intelligence, militants, and enhancing the precision of medical diagnosis and surgical operations.

While disputes over these examples have created controversy, the potential for these technologies to save lives in armed combat deserves careful examination. Approximately 3,000 roboticists and AI professionals at the WCRA meeting, including Stephen Hawking, Elon Musk, and Demis Hassabis, have advocated for a ban. Furthermore, 116 AI and robotics businesses have petitioned the United Nations to prohibit lethal autonomous weapons worldwide (Verdiesen, Ilse. AI Matters).

However, there is still much dispute among governments about the consequences of these weapons, as well as uncertainty concerning the terminology "autonomous" and their conformity with international humanitarian or conflict laws. Signatories to the Convention on Conventional Weapons, as well as non-governmental organizations (NGOs) and UN authorities, have urged for a ban on their deployment. However, resistance from countries like Russia and the United States has prevented the necessary agreement.

Definition of Key Terms

AI (Artificial Intelligence):

A branch of research that seeks to improve machine programming, algorithms, software, and "intelligence". Their software or "intelligence" is judged by the machine's capacity to make the best decisions in a variety of circumstances.

Fully Autonomous Weapon Systems:

FAWs, often known as "killer robots," may choose, target, and interact with other persons without the need for human intervention, depending on their AI.

Lethal Autonomous Weapons (LAWs):

LAWs have the same function as FAWs, but they are particularly developed for military deployment. They may seek, track, and engage independently, with the purpose to kill or hurt in accordance with programmed limits. They are designed to function in the air, on land, on water, underwater, and even in space.

IHL (International Humanitarian Law):

A system of universally applicable rules and laws, particularly employed in combat; sometimes known as the law of war or the law of armed conflict. IHLs are established by treaties or conventions and seek to ensure ethical and moral concerns in armed conflicts while safeguarding all members of the community, including hostilities.

Human-out-of-the-loop Weapons:

Robots capable of picking targets and delivering force without human intervention or contact. These autonomous systems raise worries about "killing machines."

Human-on-the-loop Weapons:

Robots capable of picking targets and delivering force with the supervision and direction of a human operator. Humans can override or destroy these robots

Principles of Proportionality:

The use of proportionality in combat is a source of worry when it comes to the deployment and development of autonomous weapons. It is a legal principle that ensures fairness and justice, and it is frequently used in war crime investigations to balance constraints with the gravity of illegal actions.

Background

The Geneva Conventions are a set of four treaties and three protocols that define international law norms for humanitarian treatment during war. These requirements include civilian protection, proportionality principles, accountability mechanisms, and ethical concerns in weapon development. States have failed to establish a common definition of "lethal autonomous weapons systems." Those most engaged in weapon development utilize the absence of specificity to stymie progress in negotiations.

Countries that support autonomous weapons say that their use will prevent human fatalities and mass property damage. However, detractors raise ethical, legal, and moral questions about their use and governance (the UN and IHLs, the ICRC).

Security Concerns

The US government spends almost $2.1 million per year on each soldier stationed in Afghanistan (Military Times). Warfare is incredibly costly. The deployment of autonomous weapons has the potential to cut military deaths and expenditures. However, these developments facilitate military spread, making weapons more available to tyrants, non-state actors, and terrorists. Reducing military deaths may reduce the threshold for deploying force, jeopardizing international security and decreasing political incentives for peaceful settlements.

Legal Concerns

Autonomous weapons respond and interact at speeds that exceed human control. Current technology is insufficient to design ethical processes, therefore these weapons are exceedingly unpredictable. Furthermore, commanding leaders and troops have historically been held accountable for war crimes. However, with completely autonomous weapons, liability is uncertain, complicating legal frameworks and perhaps leading to uncontrolled war escalation.

Political Context

The development of artificial intelligence and autonomous weaponry began with permanent UNSC members, particularly the United States and Russia. Initially a power ploy, it has resulted in the upgrading of autonomous weaponry. China, the first permanent UNSC member to demand for a ban, stands in stark contrast to the United States, the United Kingdom, France, and Russia, which base their stance on political safety and border security (Mohanty, "Lethal Autonomous Dragon" ORF).

Major Countries and organizations involved

United States of America

The United States claims that autonomous weapons will cut civilian deaths and military expenses. It continues to explore AI technology, hoping that breakthroughs would solve ethical problems.

Russia

Russia is opposed to controls or prohibitions on autonomous weapons, believing that IHLs are sufficient as they are.

China

China has asked for a moratorium on autonomous weapons, urging impartial debate before further AI research

UNIDR (United Nations Institute for Disarmament Research)

UNIDR leads disarmament research and negotiations. Its 2016 report raised awareness about the risks of weaponized AI.

Possible Solutions

Because some governments have already deployed autonomous weapons, a successful prohibition requires unanimous backing from key powers. The CCW sought to impose a preemptive prohibition. Raising awareness and developing international collaboration will help ensure its success. Conducting case studies at conventions to examine the implications of autonomous weaponry in actual or simulated circumstances would address ethical, security, and legal problems. This method would aid in the development of actual solutions by tying diverse stakeholders' concerns to human control over weapon deployment.

Bibliography

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