

Final Paper

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GEOPOLITICS

WITH RESPECT TO AUTONOMOUS WEAPONS SYSTEM

Abstract:

Autonomous Weapons systems being used to detect and destroy the targets without human intervention. This Revolution is just getting started and turbocharged by Artificial Intelligence. Robots fighting wars science fiction not anymore. Autonomous weapons appear to be one of the terrible inventions that are connected to significant socio-political inequalities. This invention's main benefit is that it directly contributes to the survival of the human race. This technology's effectiveness and dependability have long been in doubt. The geopolitical point of view has seen numerous changes since the founding of this ideology. The fundamental human morality of survival has come under scrutiny. This creation of the modern era has always been used in relation to the law. The effectiveness and efficiency of this technology significantly contribute to the change in power on a global scale. The core meaning or development of autonomous weapons systems seems to be for the purpose of war. The threshold for war will be increased because a technical glitch in an autonomous weapon system could result in starting a war. A robotic war might decrease human loss, but the intensity of the war changes. The combination of AI and weapon systems seems more dangerous. An autonomous weapons system can initiate a war.

Introduction:

Geopolitics can be defined as the study of how geography and economics have an influence on politics and on the relations between nations. Autonomous Weapons System is one such technology which can change the dynamics of geopolitics within no time. If an individual think that geopolitics is not important to them does not make it true. The users of an autonomous weapon cannot be sure to strike only military targets or effectively assess the risks civilians, yet fighters must make these legal and moral judgments which ever weapons they use. Machines will never be able to bring a genuine humanity to their interactions no matter how good they get at faking it if we don't want our faces our movements or gestures or communications are location the number plates on our cars to be the trigger for a bullet or a missile without human judgement. If machines not humans are making life and death decisions how can wars be fought. We cannot accept a world where an algorithm can kill people. Discussions about "autonomous weapon systems" (AWS) have been heated for years. They are being discussed by a wide range of political, academic, and legal actors, with many arguing for severe control or even a global prohibition. Surprisingly, it is frequently still unclear to what technology the name "AWS" refers and whether these systems can even be considered autonomous. Despite widespread apprehension, fully autonomous, uncontrollable weapons remain more of a theoretical potential than a practical military reality.

Geopolitics:

This modern period invention "Autonomous Weapon Systems" has always been a geopolitical concern. The cover of this invention might have colours that shows it is to support the integrity of a nation in contrast there are clear shadows of the enormous destruction which manifest that it is for geopolitical supremacy. It puts mankind at the edge, Same as invention of nuclear or hydrogen weapons. People might feel that it might be the newer version of a weapon, but it isn't. It might be the one last invention.

Geopolitical Game Why?

Let's think why countries want anti humanity inventions. Let's investigate some history. After the invention of weapons such as guns there is a mass revolution in colonizing. The great "British" umpire in the name of colonization has ruined the nations. Taken freedom of countries making countries as slaves. Pointed guns towards innocents a lot of lives were taken. Demolishing integrities of countries implanting their personal interest policies such as Divide, and rule policy made brother nations to become enemies and in an era of development they just set back and watch counties to fight wars. Nations fought for independence. The reason of the above discussion is that if one such invention can make a drastic difference in the global dynamics let's compare it to the invention of mass destructive autonomous weapons systems. Here comes the context of Geopolitical supremacy indirectly know as global supremacy. The greatest countries are the countries having more power it might be military, nuclear or hydrogen. This seems like it is not just a beginning of arm race, Infact the major power countries are already in it. The core meaning or development of autonomous weapons systems seems to be for the purpose of war. The threshold for war will be increased because a technical glitch in an autonomous weapon system could result in starting a war. A robotic war might decrease human loss, but the intensity of the war changes. The combination of AI and weapon systems seems more dangerous. An autonomous weapons system can initiate a war. Governments are spending like never before to automate their weapons, developing drones, robots, submarines and tanks that can select an attack without human intervention. Many weapons that today are controlled remotely may tomorrow be left as sensors and software machine guns attached to a driverless vehicle could be programmed to roll into cities and find motion Heat on video sensors could be used to trigger an armed robot at a checkpoint and large numbers of armed drones could be interconnected to attacking swarms. It's already in use the world is in a new arms race in just twelve countries there are over 130 military systems that can autonomously track targets systems that are armed they include air defence systems that fire when incoming projectiles detected loitering munitions which hover in the sky searching a specific area for pre-selected categories of targets and century weapons at military orders which use cameras and thermal imaging to ID human targets it's a pretty far cry from a soldier manning a checkpoint militaries are not turning to robotics and increasingly autonomous robotics because it the cool that doing it for very good military reasons they can take in greater amounts of information than a human could make sense of it quicker than a human could be deployed into areas that might not be possible for human system or might be too risky too costly any remote controlled robotic weapons in the air on land or at sea could be adapted to strike autonomous and even though humans do oversee the pull of trigger now that could change overnight because autonomous killing is not a technical issue it's illegal in essence we've been here before at the beginning of the last century tanks air warfare and long range missiles felt like science fiction but they became all too real. In United states a major report from a National Security Commission on Artificial Intelligence talks about AI enabling a new dimension in war fighting and urges massive number of investments in the field. They are definitely going to be used. There has been political disparity on the usage of these weapons, which is not really affecting countries' governments in stopping the production or usage of autonomous weapons. I feel that the usage of these weapons should be limited (partially used for the benefit of humankind) because, in some situations, autonomous weapons reduce human risk.

Arm Power directly proportional to Geopolitical Supremacy.

Let's see an example of a geopolitical issue between India & China and analyse how introduction of AWS can change the dynamics:

India and China's relations have been deteriorating. Along their disputed boundary in the Himalayan area, the two superpowers are engaged in combat. India and China are at the worst diplomatic relations as of now. The Chinese People's Liberation Army (PLA) continues to raise serious concerns among its rivals and neighbours in this context India as it strives to develop into a "world-class military." Significant expenditures have been made by the Chinese military and the country's defence sector in robotics, swarming, and other AI and machine learning applications (ML). The military balance may be impacted by Chinese developments in autonomy and AI-enabled weaponry, which may also exacerbate risks to international security and geopolitical stability as great power

competition grows. The Chinese military may expedite the deployment of weapons systems that are risky, unproven, or unreliable in real-world combat scenarios to gain a technological edge. The trajectory of Chinese military innovation will be influenced by the PLA's strategic decisions over which capabilities might be advantageous. The fact that Chinese military scientists and researchers are beginning to discuss safety issues, technical issues, legal and ethical difficulties, and other related topics is positive. However, the People's Republic of China (PRC) has sold weapons to militaries that could pose a threat to the United States and have little regard for international law. On the other side of coin Indian Army is investing heavily into Artificial Intelligence (AI), Weapon Systems, Quantum Technologies, Robotics, Cloud Computing and Autonomous Warfare in order to achieve a convergence between the Army's warfighting philosophies and military attributes of these technologies. The Indian Army has undertaken a wide array of technology to develop. While these two nations are fighting for the geopolitics on global platform, we can see that they are building autonomous weapons systems to contradicts each other's defences. It's quite more important to India to take care of their sovereignty and to overcome notorious Chinas attacks. If AWS is fully implemented China can easily conquer over India.

Artificial Intellegence intervention making AWS (Autonomous Weapons Systems) more powerful:

AI may be more developed and well-known when it comes to its usage in cyberwarfare, including to amplify malware attacks or to better imitate reliable users in order to get access to vital infrastructure, like the electric grid. However, it is being used by powerful nations to create physically damaging weapons. While the United States has shown off a number of capabilities, including munitions that can destroy a surface vessel using a swarm of drones, Russia has already made significant advancements in autonomous tanks, machines that can run without human operators who could theoretically override mistakes. AI is used to create loitering weapons and swarming technologies, commonly known as kamikaze drones. These systems utilise already existing military platforms that make use of AI, as opposed to the futuristic robots shown in science-fiction movies.

A glimpse of few designs:

- Design to Fire and Forget.
- Drone swarms.
- Slaughter bots.
- Air defence systems.
- Data Analytics.
- Cyber Weapons.
- killer robots.
- Military drones.

Technical Challenges / Threats:

Since algorithms are unable to appreciate the worth of human life, they should never be given the authority to determine who lives and who dies. AI-powered machines may malfunction, damaging any moving targets, breaking down sensors, losing connectivity, etc. Cyber-attacks could target systems that rely on the internet. AI malfunction - AI has advanced to the point that it disobeys humans. Risk of shooting by accident because of erroneous signals' confusion. By using algorithms to make decisions, weapons can develop faster, more affordably, and on a larger scale than software. Due to the introduction of the threats of proliferation, fast escalation, unpredictability, and potentially the possibility of WMD, this will be extremely destabilizing on both a national and worldwide level.

These dangers include automation bias, a world with autonomous weaponry that requires faster decision-making, complexity that raises the likelihood of accidents and escalation, and the potential for AI-related military competition and its effects on the long-term safety of AI.

Even though we are in the decade of technological supremacy, there are still some areas where technical glitches exist. If the weapon system fails to differentiate between a farmer, a citizen, and a soldier, there might be a greater mess and the loss of innocent lives. Even Tesla autopilot mode needs human interaction and is not 100% reliable.

Control:

In my point of view when a country needs to make a military agreement it might not make the agreement with the neighbour country or its friend because the nations personal interest might not fit in restricting its friend's, but it is trying to make an agreement with the enemy nation. The major point arises is the trust.

So how much trust a nation puts on its enemy nation in prohibiting or controlling the development of a technology or a weapon?

International humanitarian law in fact it was the international committee of the Red Cross that pushed for the creation and universal adoption of these rules starting with the very first Geneva Convention in 1860 these rules have remained flexible enough to encompass new developments in weaponry staying as relevant today as ever, but these laws were created by humans for humans to protect other humans so can a machine follow the rules of war?

The key issue is really that humans must keep enough control to make the legal judgement machines lack human cognition judgement and the ability to understand content and you can see the parallels with how we deal with pets the dog is an autonomous system the dog bite someone who owns that dog who takes responsibility for that dog did they train that dog to operate that way that's why the international committee of the Red Cross advocates that governments come together and set limits on autonomy and weapons and ensure compliance with international humanitarian law the good news is that the ICRC has done this work for over a century they've navigated land mines and cluster munitions chemical weapons and nuclear bombs and they know that without human control over life and death decisions there will be grave consequences for civilians.

Governments last at now just as with antipersonnel land mines blinding laser weapons and cluster bombs, we need a new legally binding treaty to protect civilians and combatants and preserve a measure of humanity in warfare unpredictable autonomous weapons should be prohibited autonomous weapons that target people should be prohibited all other autonomous

Expert Review:

Antonio Guterres, the secretary general of the United Nations, concurs that "machines with the authority and discretion to take lives without human involvement are politically untenable, ethically abhorrent, and should be forbidden by international law."

Stuart Russell professor of computer science at Berkeley have worked in AI for more than 35 years he states that AI potential to benefit humanity is enormous even in defence but allowing machines to choose to kill humans will be devastating to our security and freedom. He says that thousands of his fellow researchers agrees that we have an opportunity to prevent the disasters future but the window to act is closing fast.

Indian diplomat Amandeep Singh Gill is the former chair of the UN government experts' group on lethal autonomous weapons says that my fear is that they will be more unpredictability in how we get to armed conflict so the pathways to the battlefield won't be clear to policymakers so they will not understand fully the risks of certain action insert certain happenings and that will make the whole world more dangerous and this is our race in a sense which cuts across the military and civilian groups because there's also the sense that this is a multi-trillion dollar question it's about the future of a resilient economies that is what sets this new era apart from arms races of the past during the Cold War the development of nuclear weapons was driven purely by governments in the defence industry beyond power generation there wasn't much commercial use for nuclear technology today AI is rapidly entering our everyday lives he may even unlock the phone in your pocket when you hold it up to your face now this creeping ubiquity of AI is important because it means that developments in AI technology cannot be contained about to bleed across between the civilian and military fields whether we like it or not by definition you will you for multi years item useful hideaway really isn't a neighbourhood more than knowledge is a whole range of applications of artificial intelligence in civilian round from healthcare to self-driving cars all kinds of things it means there's something innocuous is a new year celebration in Edinburgh was sympatric stay in Dublin can be powered by similar swarming technology to what the Indian army showed up on its national day in fact

weapons should be strictly regulated to protect civilians.

swarming is one of the hottest areas of autonomous weapons development right now 543 the US Navy has released footage of early demonstrations.

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