

## Artificial Intelligence: The Future of Warfare

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### Synopsis

In the competition to lead the emerging technology race and to achieve strategic capability artificial intelligence (AI) is rapidly becoming the center of the global power play. AI has contributed to a better way of living for the human kind. However, when it comes to weaponizing AI, the implications are still yet to be decided. Whether it is autonomous machines that can attain the maximum expected outcome with less causality or making a decision in the pitch battle, AI goes beyond human abilities. Developing AI and deploying advanced autonomous machines in conflicted zones reflects the futuristic warfare where the battleground will have fewer humans. The reality of today is that artificial intelligence is leading us toward warfare where algorithms and machines would dominate the theatre of war.

### Introduction

A number of nations around the world have developed robotic or semi-autonomous weapons systems. The number is expected to grow exponentially as the technologies would develop over the next decade. Research institution IDC estimated that spending on robotics would double from USD 91 billion in 2016 to USD 188 billion by 2020, creating significant improvements in the technology which will fully enable autonomous systems and the embedding of artificial intelligence in weapons platforms. Around 350 or so semi-autonomous platforms are currently

in use around the world. The spike of interest is driven by in part those who view AI as a revolutionary technology. The application of robots in warfare has prompted a debate among military planners, roboticists and ethicists on the development and utilization of these robots with minimal human oversight. The overwhelming apprehension from the community who are calling for a ban on lethal autonomous weapons (LAW) such as the 'Campaign to Stop Killer Robots', is that if machines become fully autonomous, human role on the ground of battle will be irrelevant. This article elaborates the technological potential of AI in warfare and ethical considerations that have to be taken into account in its development.

### **Artificial Intelligence and its Weaponization**

Whilst artificial intelligence has advanced in many sectors such as economy, streamlining the supply-chain, better delivery of goods and services and quality customer care and so on, improved our everyday life transportation also healthcare. When it comes to weaponized machines being able to function without involvement of human, a lot of questions are raised. Lethal autonomous weapons (LAWs) are a type of autonomous military robot that can independently search and engage targets based on programmed constraints and descriptions. LAWs are also called lethal autonomous weapon systems (LAWS), lethal autonomous robots (LAR), robotic weapons, or killer robots. In aviation space, a drone or "unmanned aerial vehicle" (UAV) refers to an unpiloted aircraft or spacecraft. The serving purpose of using UAVs in a combat zone is to lose less soldiers. In addition, deployment of drones would not require rest, enabling them to fly as long as there is fuel in the craft and there is no mechanical malfunction. As advanced as these weapons are, they can jeopardize the life of innocents and wrong targets acquisition would jeopardize fragile peace initiatives in conflicted areas.

## **Altering the Current Algorithm of Battlefield**

AI will cause a shift in the characteristics of war, but not in the nature of the war itself. In the UK, the Taranis drone, an unmanned combat aerial vehicle, is expected to be fully operational by 2030 and capable of replacing the human-piloted Tornado GR4 fighter planes that are part of the Royal Air Force's Future Offensive Air System. Adapting AI in terms of using weapons has potential implications for the battlefield algorithm. For the military, object identification is a natural starting point for AI, as it requires data of many different kinds such as picking up thousands of such as images, voice data, performing reconnaissance on the targets and information collected from satellites. This is why drones are finding their ways in the military war rooms. In the era of rapid development of the third stage artificial intelligence systems, we will see more of the robot soldiers in the field of operations.

## **The Challenging Future for AI in Warfare**

There has been enough rhetoric about threat and dangers concerning artificial intelligence (AI) can pose, but it's been primarily focused AI replacing the jobs of the humans in the very near future. The dilemma of deployment of autonomous weapon systems has moral and legal implications. The United Nations recently discussed on the use of autonomous weapons reflecting on the possibility to bring out an international ban on "killer robots. Artificial intelligence community all around the world has given the warning that these weapons could lead to a "third revolution in warfare" and the ramification would carry massive casualties. Another uncertainty lies with the danger of LAWS being in the hands of oppressive regimes as they may use it against their own people.

## **The Ethical Dilemma**

To an extent, the line between civilians and combatants are going to be blurred in the era of Artificial Intelligence and deployment of smart weapons. There are experts standing against the idea of weaponizing AI for using in battlefields claiming that it will leave a little room for ethics. As a matter of life-and-death, removing human footprint from the control over the machines and removing the humans in decision making process, replaced by the 'killer robots' leaves the ground of 'moral' at stake. Another worrying factor is about taking the liability if there is any mistake made. A crashing drone may kill someone who does not include the 'targeted enemies' as a result of malfunction or lack of transparency in the algorithm of the system. One of the reports from *The Incept* says that: 'The US military labels anyone it kills in "targeted" strikes as "enemy killed in action", even if they weren't one of the targets.' The dilemma if autonomous weapons should be prohibited or not is still not off the table as it is at high risk to fully function on itself yet. It is difficult to create softwares for machines to have ethical authority.

## **The 'AI' Race**

In this technologically progressive era, possessing arms with artificial intelligence is highly demanded by states. It has turned into an uncanny 'arms race' among states to take over military superiority. And this AI arms race is gaining at a rapid pace more than ever. According to President Vladimir Putin "Artificial intelligence is the future, not only for Russia, but for all humankind. It comes with colossal opportunities, but also threats that are difficult to predict. Whoever becomes the leader in this sphere will become the ruler of the world." And this view has become conventional in global capitals. By 2017, more than 12 countries have put

'developing AI' in their national agenda. For instance, China published "Next Generation Artificial Intelligence Development Plan" in 2017. This laid out plans to ultimately become the world leader in artificial intelligence, with a domestic AI industry worth almost US\$150 billion. But the emerging practice of an "AI Arms Race" reflects a partial view of the reality of AI in the context of warfare and how it poses substantial threat. For countries in this race, the real danger is not that it will fall behind the other competitors in AI, but that the perception of a race will prompt everyone to rush to the deployment unsafe technologies endangering themselves as well as their opponents. The ethical, safety implications also the high risk of debacle in weaponizing AI remains contradictory.

### **Necessity of Human Footprint**

Autonomous weapons that can operate on their own and hunt own targets would be the next step in a decades-long trend toward greater automation in weapon systems. Different narratives assert that the purpose of human engagement will become ineffective as a result. The possible consequences of deputing the authority to weapons as they offensively set targets to deploy attacks on their own are still indeterminate. Since the supervision of human becomes redundant, the risk of the weapons malfunctioning and destroying wrong targets remains.

### **Virtues of AI in Conflict Situation**

Despite of the several pitfalls, adaptation of AI can offer possibilities to the future framework of warfare. Autonomous Weapons Systems are believed to provide opportunities in terms of reducing the operating costs of the weapons system. Weapon systems are meant to achieve greater speed, accuracy, persistence, precision, reach and coordination on the CGS (cyberspace,

geospace, and space) battlefield. Autonomous weapons could function in a better manner as their sophisticated technology could identify target better than humans and execute killing missions exactly how it is programmed. Compared to human, lethal autonomous weapons (LAWs) and unmanned aerial vehicle (UAVs) have less restriction in terms of movement than humans in the field. Humans have both physical and psychological limitations. Their mental state can get triggered any moment during a battle with emotions like fear or fatigue, revenge, anger etc. Also to counter enemy threats, rapid response is crucial, and it necessitates taking the human “out of the loop” and letting machines decide when and where to fire on their own. With advanced technology, ‘Killer robots’ on the other hand will not face such shortcoming. Therefore, the execution will have better outcomes than of human soldiers.

## **Conclusion**

Artificial Intelligence is the ultimate reality which will eventually allow machines to operate on its own in any projected warfare task without any human intervention and engagement. Using only the interaction of its embedded sensors, computer programming, and dynamic algorithms in the human environment and ecosystem these autonomous weapons will determine targets and undertake operations unaccompanied by separate operators. Even so, the favorable outcome of weaponizing AI for military purpose is speculative and it gives a rise to the threat human life due to possible malfunction in the machines.

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