Houston Area Model United Nations
Standard Committee

DISEC

Chair | Manan Khandelwal
Topic A
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Note to Delegates

Delegates,
My name is Manan Khandelwal, I am a sophomore aerospace engineering major at Texas A&M University, and I am ecstatic to serve as your chair at HAMUN 49 this year for the Disarmament and International Security, or DISEC, Committee!

This year, DISEC will focus debate over the control and regulation of autonomous weapons systems and the creation of a global framework for arms classification and illicit trade control. Both topics are relevant as the issue of oversight has become increasingly paramount in the age of strategic arms development and rising global tensions, and nations are left scrambling to protect themselves from this new arms race.

If this is your first time at HAMUN, welcome, and thank you for choosing DISEC! If you are a returning delegate, welcome back, and I hope to see how you leverage your experience to shape this debate.

My expectations for all of you as delegates are not to know everything, nor to be the first to signal a motion every time. Instead, I expect you to have fun debating topics you truly enjoy and are curious about, and the best way to do that is to simply stay updated and absorb information. Feel free to reach out if you have any questions. Good luck!

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Topic Overview

The role of artificial intelligence in the defense industry has been a popular theme in the science-fiction genre ever since the idea of automation was conceived. Franchises revolving around artificial intelligence in the military, such as the Terminator or Iron Man, have been universally acclaimed in the pop culture industry, and have generated billions of dollars in cultural revenue around the world. However, these stories of heroes and villains may quickly to reality, as we launch ourselves into a new arms race to establish military dominance with the use of lethal autonomous weapons systems.

Put simply, a lethal autonomous weapon system, or LAWS, is any form of weapon that selects and applies force to targets without human intervention, as understood by the International Committee of the Red Cross. Once this system is activated, the human user has minimal control over the decisions of the system, such as the identification of the target or the characteristics of the striking maneuver. The most common type of autonomous weapons are defense weapons, which only intercept incoming fire and are only activated when it is under threat. However, countries are beginning to conduct deep research and harness the power of advanced artificial intelligence, allowing them to turn to weaponry that initiates conflict and puts their side on the offensive. Examples of autonomous weapons include loitering munitions, such as antitank or antipersonnel mines, sentry guns, missile defense systems, anti-aircraft weaponry, and

Fig. 1: Serbian "Miloš" tracked combat robot

drones; all of which are currently implemented in militaries around the world.

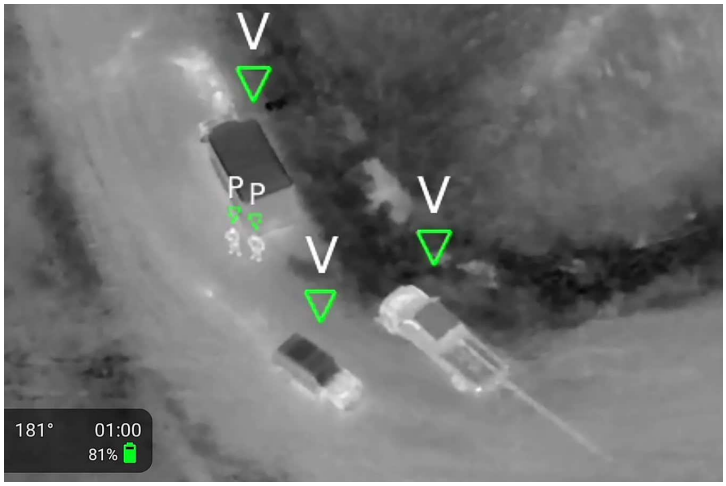

Fig. 2: Targets identified by AI-powered drone

As mentioned earlier, artificial intelligence, or AI, is paramount to the development of these technologies. Traditional weapons operate by a trigger unleashing a defined set of actions and kill indiscriminately depending on the behavior of the user or the nature of the weapon. For example, a gun has the potential to kill any entity it is targeted at, but its use heavily depends on the intentions of the person holding the gun. On the other hand, artificial intelligence-powered weapons are trained on preprogrammed profiles of targets – including but not limited to people, military equipment, or geographical locations – and fire once the target matches the profile to a certain extent.

The militaristic advantages of such weapons are numerous; autonomous weapons act as a force multiplier and increase the efficiency of each soldier by applying more force for less personnel. They allow combat to reach into areas that were previously inaccessible, and most importantly, they reduce the number of casualties by removing human warfighters from dangerous missions. However, specific scenarios bring ethics and legality into play, and as militaries rapidly expand their technological prowess, it is critical for us to realize the lack of new legislature with regulation on this issue.

History

Surprisingly, the first rendition of a killer robot was made by Leonardo da Vinci in 1495, when he designed a mechanical knight that could replicate a wide array of human-like motions.

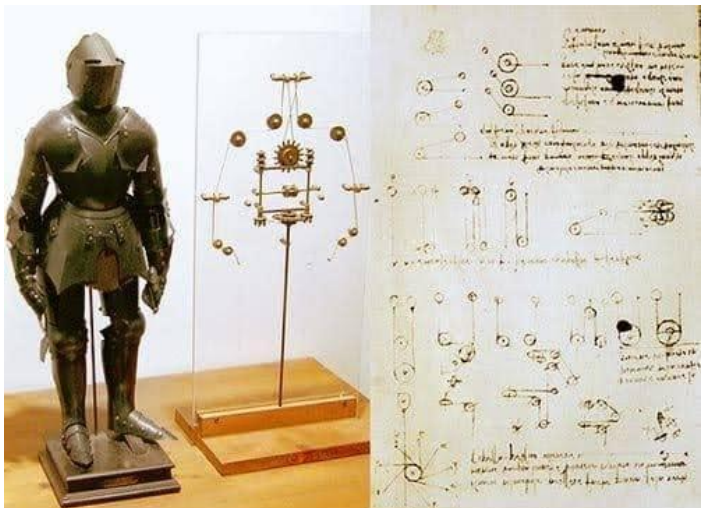

Fig. 3: Leonardo da Vinci's robot-knight + notes

Centuries later in 1914, the world first observed the use of guided explosives in war, when the Germans deployed radio-guided explosive boats and the United States developed the Kettering "Bug", a gyroscope-guided winged bomb. Thirty years later in World War 2, the Germans deployed the Fritz X bombs to take down the Italian battleship Roma – these would later

Fig. 4: RIM-8G Talos missile before launch

become known as the world's first radio-controlled drones. Less than a decade later in 1953, the USS Mississippi launches the first computer-guided missiles, but this would immediately be succeeded by the Talos missile system, which employed a homing device to make automatic corrections to altitude and speed. These corrections proved the capacity of a computer to make decisions on its own, paving the way for the development of increasingly dynamic weapons.

After minor developments in unmanned aerial vehicles, US-backed funding for the implementation of machine-aided cognition in advanced

weaponry creates the first major breakthrough with the deployment of the Global Positioning System (GPS), which is used to guide an unmanned drone for the first time in 1995. Around the same time, the Aegis air defense system aboard the USS Vincennes made great strides after shooting down a potentially hostile aircraft in the Middle East while in semi-automatic mode. This became one of the first instances of automated target detection, where the only human involvement in the process was the decision to engage and the assessment of the performance. Unfortunately, the aircraft was erroneously identified, and the incident kicked off the ethics debate behind using automation in weaponry.

Developments in the fields of autonomous weaponry and aviation accelerated drastically in the 21st Century, with experts praising the increased efficiency of such technologies but condemning the reliance on AI to identify and strike targets. 2001 saw the production of the General Atomics RQ-1 Predator autonomous drone, which gained popularity after its deployment in 2002 to conduct the United States' first drone strike outside a war zone. Four years later, South Korea deployed the Samsung SGR-A1 sentry robots along the Korean Demilitarized Zone, which became the first unit of its kind to have an integrated system that included surveillance, tracking, firing, and voice recognition. In 2009, the U.S. Air Force published a report that documented its long-term plans to introduce complete autonomy into units within the organization, which was met with great controversy at the time due to moral, ethical, and safety concerns.

Fig. 5: SGR-A1 sentry robot aiming at a soldier

Since then, groundbreaking research and development completed by government agencies and private organizations has resulted in safer systems, but we will explore the ethical side of the debate and why introducing strong legislation is vital.

Case Study – Paul Scharre

Consider the example of Former Army Ranger and Pentagon official Paul Scharre, who served as a Special Operations Reconnaissance Team Leader in the Army's 3rd Ranger Battalion and completed multiple tours in Iraq and Afghanistan.

Fig. 6: Ranger Scharre speaking on the ethics of AI at a conference hosted by Stanford University

Scharre recounted a situation where he encountered a young girl herding goats near the Afghanistan-Pakistan border, but soon realized the goats were a muse and the child was discreetly reporting the soldiers' location. According to the Law of Armed Conflict, civilians are protected from attack but lose this protection during any period in which they take a direct part in hostilities. On the other hand, children are granted special protection against being drafted into hostilities but if this rule is broken, defending forces are strictly instructed to take their plight into deep consideration before applying force.

The nuance between the aforementioned rules is complicated but the overarching definition of an enemy would result in the girl being classified as a hostile target, allowing Scharre's team to shoot at her. Of course, the team avoided attacking due to moral conflicts, but the outcome would likely have been different had an artificially intelligent robot been in his place. Had the robot been programmed to comply with the rules of war, the little girl would have been fired at.

Soon after, Scharre began questioning

the potential consequences of implementing artificial intelligence into our militaries. It is difficult to design a robot that would know the difference between legality and morality and the acceptable bounds of its decisions. However, creating a sentient robot would come with its own complexities. How would you interpret the intricacies of human values into a set of rules a robot can follow, and how do you ensure whose safety the robot holds paramount? For example, if the robot has been taught to attack those opposing its deployers but simultaneously ensure the protection of children, who would it fire at? When is it necessary to follow the rules and when is it acceptable to bend the rules, but how do we control what rules the AI can bend depending on the situation?

Currently, there is no clear agreement about what degree of involvement humans should have with these decisions to ensure their actions are legally binding, but undefined terms such as “meaningful human control” and “appropriate human involvement” have been incorporated into the argument. Therefore, creating overarching legislation with strict enforcement that answers these open-ended questions should become an important priority for nations worldwide.

The Problem Today

As of today, the United Nations has little existing framework that specifically targets the creation of AI-powered autonomous weapons fully capable of making lethal decisions. In October 2023, The 78th Session of the United Nations General Assembly (UNGA) called on nations to support a resolution on acknowledging the risks that autonomous weapons systems pose; however, the negotiations are set to conclude in 2026. Countries that support the prohibition of LAWS include Palestine, Pakistan, Ecuador, Cuba, and others, believing that their development and proliferation has the potential to significantly change the way wars are fought while contributing to heightened tensions and global instability. Listed below are four of the multiple reasons to support the regulation of this technology:

1) Implicit biases: A problem faced with all systems employing AI, implicit biases hidden in datasets used to train AI tend to skew results in favor of one side. For example, a 2016 study researching the use of a computer program to calculate recidivism for the United States criminal justice system discovered that Black minorities were twice as likely to be categorized as high risk, and that women were at higher risk than men were due to biases within the training models. Moreover, very little research has been done into the military applications of AI, and how they propagate inequalities in their decisions.

2) Loss of judgment: In situations where the enemy surrenders or chooses to convey important information, soldiers are forced to make split-second decisions that could have major implications on the result. However, the lack of judgment posed by AI in the face of its algorithms could result in a compromise of morality that stands as the wall between life and death for another person. Military attacks must be made depending on the context of the situation and the proportion of

force required to either subdue or eliminate a target, but the introduction of artificial intelligence into the decision-making process can result in unpredictability that could dictate the outcome of a battle or war.

3) Lack of accountability: All militaries around the world have stringent bylaws that dictate the chain of accountability behind destructive or reckless conflicts of any nature. However, it becomes exponentially harder to dictate accountability in the event of an autonomous weapon attack, since the decision was made by an algorithm which in turn was made by a human whose intention was not to enforce a negligent attack. This distorts the chain of liability and presents a legal challenge to all parties involved.

4) Digital dehumanization: To reach a conclusion, autonomous weapon systems follow a complex sequence of algorithms to quantify a potential match to the target's profile. As a result, computers see human targets as numbers instead of "humans," which reduces the decision to kill into a simple choice with no regard to ethics or morals. This pattern of labelling humans into bins or stereotypes could become a trend in other aspects of our lives, which we need to prevent at all costs.

On the other hand, here are three reasons why some countries may choose to move forward with the development of lethal autonomous weapons systems:

1) Reduced collateral damage: The increased accuracy presented by autonomous weapons systems reduces the scope of collateral damage. According to the Bureau of Investigative Journalism (BIJ), for instance, U.S. strikes in Afghanistan, Pakistan, Somalia, and Yemen from 2002 to 2020 killed between 10,000 and 17,000 people. Of these, between 800 and 1,750 are thought to have been civilians.

2) Reduced casualties: The removal of humans from the battlefield would result in reduced loss of life for the side deploying these weapons systems. As mentioned earlier, they also serve as a force multiplier, increasing the impact produced on the battlefield per human soldier deployed.

3) Disregard for physiological and mental constraints: The addition of AI-powered drones and sentry robots to a nation's arsenal could potentially push the capabilities of its military far beyond the limits of the human physiology in many

aspects of warfare. For example, the physical strain of high-G maneuvers, the intense mental concentration, and the situational awareness required of fighter pilots makes them very prone to fatigue and exhaustion. Robot pilots, on the other hand would not be subject to these physiological and mental constraints. Moreover, fully autonomous planes could be programmed to take genuinely random and unpredictable action that could confuse an opponent.

In conclusion, there are both pros and cons to the development of LAWS, depending on where your delegation stands on this topic. While you may be tempted to side with imposing strict regulations due to the moral and ethical implications of the issue, please recall your country's stance in real life and their commitment to the development of LAWS. An important thing to remember about this conference is that it is possible that your country does not support the legislation of autonomous weapons at all, seeing that some countries invest much more heavily in the technology than others. This may be because of war profiteering, the leverage of the private defense industry, or a country's militaristic needs among many other factors. Inevitably, the key to success at a Model United Nations conference is staying true to your country's perspectives, regardless of their relevance to the topic. The international community will never make unanimous decisions on a topic because of conflicting cultures and values, and this committee will emphasize a direct representation of this disagreement instead of simply agreeing on a resolution that is not true to your country.

The best delegates are the ones who fight for what their people believe in, not what they believe in or what they think others will agree with. I wish you the best of luck for your preparation, and I look forward to hearing your opinions in Houston on conference day!

Questions to Consider

With the background set in stone, it is now your task to compare and reflect on the advantages and disadvantages of introducing a new array of weapons and ushering the world into a new era of warfare. Here are some questions you may consider to guide your delegation's argument as you research the topic and prepare for the conference:

1. What is your country's stance on the ethics of artificial intelligence for commercial applications?
2. How does that perspective transfer to military purposes?
3. What are the current sources of legislation?
4. What exactly is it that we need to change about our current legislation, and why?
5. How is current legislation enforced?
6. What are the best ways to be able to enforce new rules given the United Nations' present capabilities of oversight?
7. What would the impact of non-proliferation have on the private defense industry?
8. Should we update and amend existing treaties, or should we scrap everything and start from scratch?

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