Dear Delegates,

Welcome to the General Assembly First Committee: Disarmament and International Security Committee (DISEC) of NGMUN 2021! My name is Katie Cheung, and I am thrilled to be your chair alongside my incredible co-chair, Chris Tillen. Currently, I am a sophomore at the Noble and Greenough School. I have grown up outside of Boston, Massachusetts where I enjoy playing soccer and the violin as well as running track (bonus points if you'll talk about the Premier League with me). I also have a bunny named Coda, and love to go on hikes with my dog Maple!

I was introduced to Model UN as a freshman, and instantly fell in love with the critical thinking and public speaking it requires. Since then, MUN has become one of my favorite extracurricular activities while fostering some of my closest friendships. I have participated in various General Assembly committees at Harvard University, Clark University, UCLA, and more. From presenting speeches during moderated caucuses to negotiating mergers outside the committee room, I learned to think quickly and formulate effective solutions for real-life problems. I hope to support you all in doing the same, although a virtual conference will be a new experience for many of you!

Artificial Intelligence (AI) Weaponry is probably a topic you do not often think about, but it represents a growing threat to the maintenance of global peace. At the forefront of the discussion are questions regarding the relationship between autonomous weapons and their development, ethicality, and implementation. You must consider how to address AI in the hands of terrorist organizations along with the humanitarian benefits it possesses. With international humanitarian law as a guide, this topic will certainly be an interesting one to deliberate!

Lastly, it is important to recognize that participating in Model UN within the United States is a privilege others around the world cannot access. This committee is an amazing opportunity to not only develop public speaking skills and diplomacy, but also to create a comfortable environment for everyone to share their voice. I encourage you to conduct research beyond this background guide, and begin to think of creative, pragmatic, and comprehensive solutions. Additionally, the more prepared you are to contribute and discuss with your fellow delegates, the more you will take away from this committee. I hope you will listen thoughtfully and use your advocacy skills to initiate change both inside and outside the conference "room."

If you have any questions, comments, or concerns be sure to reach out. I look forward to a stellar day of debate, collaboration, and, of course, a lot of fun! Good luck, and I will see you soon!

Best,
Katie Cheung
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Important Terms

1. Artificial Intelligence (AI): Systems that perform tasks which normally require human intelligence such as visual perception, speech recognition, decision-making, and translation between languages.
2. Autonomous Weapons: Weapons that are programmed to select and engage targets without human intervention.
3. International Humanitarian Law (IHL): A set of rules that seek to limit the effects of armed conflicts, protect people who are not participating in hostilities, and restrict the means of warfare.
4. High Contracting Parties: Representatives of states who have signed or ratified a treaty, as used during the Geneva Conventions.
5. Monoplane Fighters: A fixed-wing aircraft configuration with a single main wing plane, (unlike a multiplane). It is the simplest to build, and has the highest efficiency and lowest drag of any wing configuration.
6. Cluster Munitions: Weapons consisting of a container that opens in the air and scatters large numbers of explosive submunitions over a wide area. The number of submunitions can reach up to 600 depending on the model. They are free-falling, meaning that they are not individually guided towards a target.
7. Submunition: A small weapon or device that is part of a larger warhead and separates from it prior to impact.
8. Unexploded Ordnance (UXO): Any military ammunition or explosive ordnance which has failed to detonate as initially intended.
9. Turret: A tower, which in medieval times was specifically a siege tower. Currently, they are small towers that often contain guns.
10. Failsafe: An off switch which is accessible to human operatives which will shut down autonomous weapons immediately.
11. Slaughterbot: A colloquial term referring to fully automated robots designed with the sole intent of maximizing enemy casualties.
12. International Committee for Robot Arms Control (ICRAC): A Non Governmental Organization (NGO) that advocates for a full ban on AI weaponry.
13. Lethal Autonomous Weapon Systems (LAWS): Another name for AI Weaponry.
14. Machine Learning (ML): A subset of Artificial Intelligence, ML is the scientific analysis of algorithms and past situations that computers use to make decisions without human involvement.
15. Deep Learning: A specific type of ML that creates artificial neural networks to mimic human intelligence and make decisions.
16. Hypersonic: Sound frequencies above about a thousand million hertz, approximately five times the speed of sound.

History

Artificial Intelligence weaponry has emerged as the third revolution in warfare. The first two, gunpowder and nuclear bombs, gave those who possessed them an insurmountable advantage leading to a new age of armed conflict. AI technology provides weapons with full autonomy, programming devices with various characteristics such as being subject to intervention, able to redefine objectives, and the ability to self-initiate. AI can be implemented in essentially any weapon system. This broadens the possibilities of warfare, making the need for extensive regulation even more imperative. Although AI technology in weapons is a more recent development, examining the use of nonautomatic weapons in past wars and conflicts will help delegates better understand how to tackle the current situation. The following text details two topics: significant moments during the development and use of weapons spanning from World War I through the Kosovo War in 1999, and previous conventions and resolutions that have risen from past conflicts.

World War I

From 1914-1918, World War I sparked brutal conflict between much of Europe, Russia, the United States, and other regions. Most of World War I was spent in landlocked trenches, as nations moved away from traditional infantry based fighting. During this time, a race for the invention and mass production of new weapons, both biological and mechanical, engulfed the globe. Some of the most noteworthy developments were biological warfare along with the machine gun, rapid-fire field artillery gun, and tanks. In terms of biological techniques, Germany launched a program to contaminate horses being shipped across the Atlantic to the US with glanders and anthrax, two infectious diseases.[1] Also, Germany attempted to spread a separate plague in St. Petersburg, Russia in 1915 to weaken the Eastern Front.[2]

Regarding mechanical weaponry, the machine gun was a belt-fed gun capable of extremely high rates of sustained rapid fire. A reliable addition to the battlefield, it could fire 600 bullets per minute with a range of more than 1,000 yards (900 meters).[3] The French 75-millimeter field gun displayed new improvements in brake and recoil mechanisms, keeping the weapon still when fired. By 1914, a stalemate on the Western Front was reached, heightening Allied aspirations for a weapon that could unlock the German trench barrier. In the spring of 1915, the Germans prospered as they extended railways to create an easier flow of munitions and raw materials for manufacturing. At the same time, France and Britain struggled to create a machine that could traverse deep trenches while enduring sprays of bullets fired from machine guns. A year later, British efforts led by Winston Churchill as the first lord of the Admiralty resulted in the tank. On September 15, 1916, the first regiment of tanks was discharged to the battleground. The great success of this new vehicle signaled a turning point in ground-fighting

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[1] Riedel, Stefan. US National Library of Medicine, "Biological Warfare and Bioterrorism: A Historical Review," accessed December 29, 2020,
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1200679/
[2] Schneider, Barry R. Britannica School, s.v. "Biological Weapon," accessed December 29, 2020,
https://www.britannica.com/technology/biological-weapon
[3] Britannica School, s.v. "World War I," accessed December 21, 2020,
https://school-eb-com.ezproxy.nobles.edu/levels/high/article/World-War-I/110198.

techniques. With the deployment of new weapons such as machine guns and tanks, an emphasis on mechanical warfare reigned supreme over outdated and ineffective mass infantry methods.

World War II

        Unsettled disputes from WWI ignited the Second World War, a conflict known to be the bloodiest in human history. From 1939-1945, the Axis Powers (Germany, Italy, and Japan) clashed with the Allied Powers (France, Great Britain, the United States, the Soviet Union, and more). This resulted in more than 75 million lives lost due to factors such as military combat, deliberate genocide, disease, and starvation.[4] Newfound advancements in weaponry, specifically aircraft technology, were instrumental to both sides. Aircrafts were utilized on the international stage due to their significant speed, immense size, and extended range. The dive bomber was designed for accurate low-altitude attacks on the enemy. The strategic bombardment of cities and other enemy strongholds called for low-winged monoplane fighters which were refined to travel at rapid speeds while housing eight to 12 machine guns within its wings.

        In response to bomber planes, automatic anti-aircraft guns were introduced. First produced by the Swedish Bofors firm and then later employed by the British and US, a 1.5 inch (40 millimeter) gun was invented to fight low-level attack aircrafts.[5] This gun fired upwards of 2 miles (3.2 km) at 120 rounds per minute.[6] When high-flying bombers mounted an attack, heavier anti-aircraft guns, up to 120 mm, were used. The most effective and well-known anti-aircraft gun was the German 88-millimeter *Fliegerabwehrkanone*.[7] Also known as the "flak," it evolved into a universal term for anti-aircraft weaponry.

        In the water, German forces took advantage of technologically advanced U-boats, a type of submarine. These boats could travel underwater for two hours at a time, while carrying 35 sailors and up to 12 torpedoes.[8] With the fall of France in June 1940, the Germans gained control of the southwestern Bay of Biscay. No longer having to maneuver through the English Channel or around the northern end of the British Isles, France's collapse aided German infiltration of the Atlantic Ocean, opening a vast field for naval activity. From May to October 1940, single U-boat attacks during the night caused sinkings to rise swiftly.[9] Allied surface ships and shore-based aircrafts accounted for a total of 491 sinkings.[10] During the second half of 1941, the number of German U-boats expanded from 65 to over 230 units, and under the leadership of Admiral Karl Dönitz, U-boat commanders altered their tactics.[11] Instead of individual operations, U-boats would communicate through radio signals and then attack in a wolf-pack manner. This new

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[4] "Casualties of World War II." History of Western Civilization II. Accessed December 28, 2020.
    https://courses.lumenlearning.com/suny-hccc-worldhistory2/chapter/casualties-of-world-war-ii/#:~:text=Some%2075%20million%20
    people%20died,bombings%2C%20disease%2C%20and%20starvation.
[5] Britannica School, s.v. "Antiaircraft Gun," accessed December 30, 2020,
    https://school-eb-com.ezproxy.nobles.edu/levels/high/article/antiaircraft-gun/7808.
[6] Ibid.
[7] Ibid.
[8] History.com Editors. "Germans Unleash U-boats." History. Last modified November 6, 2009. Accessed December 21, 2020.
    https://www.history.com/this-day-in-history/germans-unleash-u-boats.
[9] Britannica School, s.v. "World War II," accessed December 21, 2020,
    https://school-eb-com.ezproxy.nobles.edu/levels/high/article/World-War-II/110199.
[10] Britannica School, s.v. "U-Boat," accessed December 29, 2020, https://www.britannica.com/technology/U-boat
[11] Ibid.

strategy proved lethal for many parties during WWII, as long lines of U-boats exploited convoys and gave Germany the upper hand. Currently, the rise of autopilot watercrafts in the present raises questions regarding peace in international waters.

Six-Day War

Highlighting the power of airstrikes and missiles, the Six-Day War, otherwise known as the Third Arab-Israeli War, ensued between June 5-10, 1967. Before this conflict, the First and Second Arab-Israeli Wars (1948-49 and 1956) heightened tensions in the Middle East. During an air battle between Israel and Syria in April 1967, the Israeli Air Force shot down six Syrian MiG fighter jets.[12] With headquarters in Moscow, MiG has developed high-altitude interceptors that can travel at three times the speed of light.[13] Providing impressively fatal aircrafts to the market, they are the principal manufacturer and seller of fighter jets around the world. Throughout the Six-Day War, state-of-the-art airstrikes and ground tactics were employed. As preemptive Israeli strikes against Egypt and Syria occurred, conflict in the Middle East flared. By the first morning, nearly 90 percent of the Egyptian Air Force had been demolished while resting on the tarmac, and a similar attack decimated the Syrian Air Force.[14] An overwhelming victory on the ground was achieved by Israeli forces in just three days. They had captured the Gaza Strip and all of the Sinai Peninsula up to the east bank of the Suez Canal. On June 5, Jordanians began shelling West Jerusalem, but two days later, Israeli forces drove them out of East Jerusalem and the West Bank. In just six days, Egyptian casualties amounted to 11,000, with 6,000 Jordanians dead, and 1,000 Syrians deceased, compared to only 700 Israeli lives lost.[15] Israel's continued utilization of airstrikes was further illustrated in 1972, as Israeli planes bombed ten Palestine Liberation Organization bases in Syria and Lebanon as a response to the Munich massacre during the 1972 Summer Olympics in West Germany.[16] The stark death toll and additional attacks illuminate the impact missiles and airstrikes can have on nonmilitary populations. This committee must establish effective regulations to guarantee civilian lives are preserved in the future.

Kosovo Conflict

Encompassed by Serbia, Montenegro, Albania, and Macedonia, the Kosovo Liberation Army (KLA) emerged in 1996 as a result of significant strain between ethnic Albanians and ethnic Serbs. This rivalry culminated in the Kosovo War from 1998-1999. As attacks on Serbian police and politicians escalated, leader of the ethnic Albanians in the Serbian province of Kosovo, Ibrahim Rugova, took action. Rugova initiated peaceful protests against the repeal of the province's constitutional autonomy by Slobodan Milošević, then president of the Serbian

[12] Siddiqi, Asif A. "MiG." Encyclopaedia Britannica Online School Edition. Last modified February 2, 2018.
        https://www.britannica.com/topic/MiG-Russian-design-bureau.
[13] Ibid.
[14] The Editors of Encyclopedia Britannica. "Six-Day War." Encyclopaedia Britannica Online School Edition. Last modified May 29, 2020.
        https://school-eb-com.ezproxy.nobles.edu/levels/high/article/World-War-I/110198.
[15] The Editors of Encyclopedia Britannica. "Six-Day War." Encyclopaedia Britannica Online School Edition. Last modified May 29, 2020.
        https://school-eb-com.ezproxy.nobles.edu/levels/high/article/World-War-I/110198.
[16] Wikipedia. "1972 Israeli Air Raid in Syria and Lebanon." Accessed December
        29, 2020. https://en.wikipedia.org/wiki/1972_Israeli_air_raid_in_Syria_and_Lebanon

Republic. The police, paramilitary groups, and army caused refugees to flee the area, and international media thoroughly publicized the crisis.

The North Atlantic Treaty Organization's (NATO) intervention in the Kosovo conflict introduced the utilization of cluster munitions. Their purpose is to destroy multiple targets and kill combatants dispersed over a wide area. Cluster munitions are distributed using aircrafts and missiles, and are intended to explode on impact. Used extensively by NATO, unexploded ordnance resulted in over 150 casualties after combat had ceased.[17] Human Rights Watch and the International Committee of the Red Cross reported that about 10 percent of the 289,000 submunitions scattered across Kosovo's countryside failed to detonate on impact, making them a persistent threat.[18] Due to higher explosive yield, cluster (sub)munitions are more likely than land mines to result in fatalities upon accidental detonation.[19] NATO's role led to expanded uncertainty and peril, failing to aid noncombatants affected by the fighting. Tensions among Albanians and Serbs in Kosovo have continued into the 21st century, highlighting the dire need for adequate solutions that will mitigate negative impacts on civilians.

Past Conventions and Resolutions

The international regulation of weapons began on July 29, 1899 as a result of the Hague Declaration, setting a precedent for proposed regulation on the current use of autonomous weapons. This convention asserted that the use of bullets which easily expand in the human body and inflict unnecessarily cruel wounds are not permitted in international conflict.[20] In Geneva, Switzerland on September 28, 1979, the Resolution on Small-Calibre Weapon Systems was drafted by Egypt, Ireland, Jamaica, and Sweden. They recalled the Hague Declaration and invited governments to conduct further research regarding the wounding effects of weapon systems and to communicate their findings.[21] Although the use of small-calibre weapons has grown into larger and more lethal weapons since then, these decisions affect current regulations.

In 1980, the UN held the Convention on Certain Conventional Weapons (CCW), which sought to restrict or prohibit the use of booby traps, landmines, blinding lasers, and incendiary weapons to ensure civilian safety.[22] While ideologically sound, the CCW failed to implement enforcement mechanisms, lacking a formal process for resolving issues with state compliance. In contrast to the CCW's large scope, the Group of Governmental Experts (GGE) was created in 2016 with a sole focus on regulating lethal autonomous weapons systems (LAWS). In 2019, they concluded that LAWS must be conducted within the principles of IHL, specifically that, "Risk assessments and mitigation measures should be part of the design, development, testing, and

[17] Britannica School, s.v. "Convention on Cluster Munitions," accessed December 21, 2020,
        https://school-eb-com.ezproxy.nobles.edu/levels/high/article/Convention-on-Cluster-Munitions/490024.
[18] Ibid.
[19] Ibid.
[20] "Resolution on Small-Calibre Weapon Systems. Geneva, 28 September 1979." International Committee of The Red Cross. Accessed December
        21, 2020. https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Article.xsp?action=openDocument
        &documentId=E33F9DA5E9C7E0C0C12563CD0051EC32.
[21] Ibid.
[22] "Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System." United Nations. Last
        modified September 25, 2019. Accessed December 21, 2020. https://undocs.org/en/CCW/GGE.1/2019/3.

deployment cycle of emerging technologies in any weapons systems."[23] Delegates highlighted possible gender or racial bias in the data sets used in algorithm-based programming, an issue that is still relevant today. Although risk mitigation measures such as rigorous testing, evaluation of systems, legal reviews, readily understandable human-machine interfaces/controls, and training personnel are called for by the GGE, these measures lack enforcement in the real world.[24]

  Furthermore, between 2008-2010, 108 states signed the Convention on Cluster Munitions (CCM). This treaty declared that such weapons cause unacceptable harm to civilians, and prohibited the production and transfer of cluster munitions. Article 3 directed all high contracting parties to separate and then destroy all cluster munitions within eight years of the convention.[25] Additionally, the destruction must comply with the international standards for public health and the environment.[26] Cluster munitions were first used in World War II, and many currently stockpiled cluster munitions were manufactured during the Cold War (1947-1991).[27] Out of 87 countries that have stockpiled cluster munitions, 34 nations have produced over 210 additional types of explosives such as bombs, rockets, and missiles.[28] The presence of cluster munitions can have a multigenerational impact, as they make farming and reconstruction of roads, infrastructure, and railways perilous. Laos is most heavily affected by these weapons, as tens of millions of unexploded submunitions litter the land.[29] Although conflicts around the world have ceased, UXO from cluster munitions continue to take lives. In conclusion, background knowledge regarding the development, usage, and regulation of all weapons, whether on the battleground or in the conference room, is essential in maintaining current global peace.

Current Situation
  Humanity's rich history in weaponry development has led the globe to teeter on the precipice of a reality where autonomous weapons are widely utilized. Artificial Intelligence is present in all facets of warfare, from physically controlling "slaughterbots" to assisting soldiers in real time. Extending beyond just the offensive, AI is present off the battlefield through controlling cyber attacks on national databases. AI is also a key tool in rehabilitating, educating, and relocating refugees as well as predicting outcomes of natural disasters. As AI becomes one of the world's most dominant tools, discussing how nations approach this helpful yet potentially dangerous weapons system is paramount. Six nations have begun developing AI weapons, with China, Russia, and the United States leading this endeavor. The United Kingdom, Israel, and South Korea are also dedicating time and resources to creating autonomous weapons. With nations beginning to hastily pursue AI armies, the world questions whether nations have entered

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[23] Ibid.
[24] Ibid.
[25] Convention on Cluster Munitions, Storage and Stockpile Destruction." International Committee of the Red Cross. Last modified May 30, 2008.
  Accessed December 21, 2020. https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Article.xsp?action=openDocument&documentId
  =61A57FC4544EF717C12574C6003ACBAF.
[26] Ibid.
[27] Ibid.
[28]"Cluster Munitions: What Are They and What Is the Problem?" International Committee of the Red Cross. Last modified January 8, 2010.
  Accessed December 21, 2020.
  https://www.icrc.org/en/doc/resources/documents/legal-fact-sheet/cluster-munitions-factsheet-230710.htm.
[29] "Cluster Munitions." International Committee of the Red Cross. Accessed December 30, 2020.
  https://www.icrc.org/en/document/cluster-munitions

an AI arms race. The threat of AI in terrorism looms over all nations, causing additional strain. Also, AI weapons raise a myriad of ethical questions, such as whether or not humans should continue to have complete control over ending the lives of others when AI could assume that responsibility. For a topic like AI weaponry, it is of utmost importance to consider all political, ethical, and economic aspects when seeking to build comprehensive solutions.

What is The Current State of AI?

AI is employed in a wide range of weapons, namely in aiding strictly offensive killing machines or in providing support to soldiers through real-time analysis. The most straightforward use of AI is implementing the system into preexisting weapons such as tanks, boats, and drones. Dr. Gordon Cooke of West Point comments, "Automated gun turrets used by hobbyists for paintball and airsoft guns have demonstrated the ability to hit more than 70 percent of moving targets."[30] To put this statistic into perspective, the US Army requires soldiers to hit only 58 percent of moving targets, while hitting 75 percent of the targets qualifies soldiers for sharpshooter marks.[31] This illustrates the lethal accuracy of AI weapons, even in their early stages of development. AI is incorporated into additional weapons beyond turrets, a specific example being Israel's HARPY drone. This drone is an all-terrain loitering munition, which self-destructs upon reaching its target.[32] Within the HARPY drone, humans can regain control due to the presence of a failsafe. In the event of a malfunction, the AI will attempt to save their lives if they do not employ it during deadly situations.[33] Features like a failsafe open new doors regarding how much trust and responsibility should be expected when using these machines.

AI is not limited to direct weapons, as semi-autonomous methods also aid soldiers. AI enhances communication when projecting and calibrating various scenarios to prepare for battle. In terms of supply and transport, self-driving tanks utilize this technology to plot safer courses through battlefields, and robots can provide soldiers with ammunition and other resources during combat.[34] Also, AI can create augmented reality for soldiers, providing sight lines through extreme weather conditions and dense environments. During battle, this technology can constantly update soldiers on the velocity and position of enemies.[35] Uncertainty arises when using differential technology, as the identification process is susceptible to gender and racial bias. Furthermore, recognizing the difference between friend and foe is central in order to update all AI weapons. For example, during drone strikes, what identifies a terrorist from a civilian? Perhaps clothing will tell, but there is still potential for error, where innocent lives are stolen and guilty ones are accidentally spared.

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[30] Cooke, Gordon. "The Future of Artificial Intelligence in Weapon's Systems." US Army Press Release, June 21, 2019. Accessed December 26, 2020. https://www.defensemedianetwork.com/stories/the-future-of-artificial-intelligence-in-weapon-systems/.

[31] Ibid.

[32] Scharre, Paul. "Killer Apps: The Real Dangers of an AI Arms Race." *Foreign Affairs,* April 16, 2019. Accessed December 26, 2020. https://www.foreignaffairs.com/articles/2019-04-16/killer-apps.

[33] Cooke, "The Future of Artificial Intelligence."

[34] Ibid.

[35] Pandya, Jayshree. "The Weaponization of Artificial Intelligence." *Forbes,* January 14, 2019. Accessed December 26, 2020. https://www.forbes.com/sites/cognitiveworld/2019/01/14/the-weaponization-of-artificial-intelligence/?sh=5970a3e43686.

Predicted Phases of Human Intervention

In all AI units, how much control do humans have? Dr. Cooke has identified three stages of human involvement in AI. The first stage is where nations currently reside, where every lethal action requires direct human initiation.[36] This is the safest stage, but it is also the most inefficient. Cooke theorizes that the second stage will involve a human commanding multiple AI units. The human would decide where to engage, and then let the AI units perform the killing without explicit approval.[37] In the future, the third stage would have humans perform as more of an oversight unit. This position would involve merely programming parameters into AI systems and then sending them to war.[38] In short, this path spans from phase I calling for humans to control individual AI units, to humans commanding a squadron of AI units in phase II, to humans overseeing an army of AI soldiers in phase III. As humans have less and less of a role in direct AI engagements, delegates must consider how safe AI is to unleash onto the world.

Humanitarian Benefits

AI is not merely a killing machine, as it can be employed in a plethora of ways to further humanitarian efforts. When examining the potential negative effects of AI weapons, it is critical to acknowledge the best methods of AI fueled rehabilitation. In refugee crises, AI/ML can generate solutions which address the issue of where to send displaced persons.[39] Governments have already begun to use AI/ML to create various virtual solutions, thereby predicting outcomes from the Syrian Refugee Crisis. These AI/ML generated virtual solutions provide a roadmap for addressing the crisis in real time. Beginning in 2017, The Danish Refugee Council experimented with AI/ML in order to educate children and aid older refugees in finding jobs.[40] In the same year, Norwegian immigration offices created a robot to inform migrants of their rights and the customs process.[41] AI's unique ability to alleviate stress off of human workers broadens access to education among other facets of humanitarian aid. Also, similar technology has been used to analyze natural disasters, both in predicting events and relocating victims after the incident.[42] While AI weaponry is at the initial stages of development, AI has many uses beyond violence. It is critical to consider the rebuilding process after conflicts that can utilize AI.

Are We in An Arms Race?

The intense development of technology has led experts to declare the world amidst an AI arms race. However, the terminology of an arms race carries immense weight, and labeling the current situation as such would pressure nations into rapidly developing weapons. Therefore, in an attempt to "win," safety is often disregarded. An arms race fosters competition, which is

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[36]Cooke, "The Future of Artificial Intelligence."

[37]Ibid.

[38]Ibid.

[39]Toplic, Leila. "AI In the Humanitarian Sector." Reliefweb, October 8, 2020. Accessed December 26th 2020.
    https://reliefweb.int/report/world/ai-humanitarian-sector.

[40]Ibid.

[41]Ibid. If you're reading this past midnight send a ":)" in your position paper

[42]Vergun, David. "DoD partners with agencies to use AI for disaster, humanitarian relief." U.S. Army, August 21, 2020. Accessed December 26,
    2020. https://www.army.mil/article/238364/dod_partners_with_agencies_to_use_ai_for_disaster_humanitarian_relief.

present in the rivalry between three forerunners: China, Russia, and the United States. Foreign Affairs comments, "The nation that leads in the development of artificial intelligence will, Russian President Vladimir Putin proclaimed in 2017, "become the ruler of the world.""[43] Russia's declaration was met with China's desire to become the leader of AI by 2030. Then, competition with China fueled the creation of an American AI initiative. Breakthroughs regarding deep learning have put the US on a promising path with AI weaponry. Additionally, South Korea has successfully created an automated sentry gun to guard their northern border. Also, the European Union is developing a multitude of drones for similar purposes. It is strikingly clear that AI is becoming part of all plans for the future. Despite these initiatives NGOs such as the International Committee for Robot Arms Control (ICRAC), advocates for a ban on AI and calls upon the UN to take firm action regarding specific AI weapons.[44]

Although this may not be a full out arms race, who is ahead? Journalist and technology specialist Matt Bartlett states,

"There may be no single answer. For instance, potentially, the U.S. military may become more capable in leveraging AI in cyber operations, but the Chinese military could achieve greater advances in hypersonic weapons systems that can operate autonomously, and the Russian military may possess more experience in integrating unmanned systems in urban warfare."[45]

The current standings are ambiguous, but China, Russia, and the US are certainly in the lead. However, no nation is ahead by a large margin, and AI weaponry is still in its infant stage. It is imperative to establish internationally accepted rules because as more nations begin to construct AI weaponry, the technology will advance and the threat of mass destruction will grow.

AI and Terrorism

With AI rising to the forefront of warfare technology, the risk of terrorist organizations implementing AI is a real threat. As seen by the use of social media to network and track targets, terrorist groups are known to innovate and will likely exploit AI weaponry. It is not nearly as expensive as nuclear weaponry, making it considerably more accessible to terrorist groups.[46] Alongside current illicit arms trade, there is an imminent possibility of the illegal manufacturing and selling of AI weapons. Delegates must discuss regulation that restricts black-market AI.

To begin, it is important to understand the breadth of how AI can be weaponized. For example, a suicide bomber with an autonomated vehicle epitomizes the damage terrorists can do with AI. Drones also pose a looming threat, as both individual assassination drones and flocks of attack drones are equally deadly. With small singular drones, it is possible that terrorist groups can simply upload a picture of a target and then send the drone to assassinate that person. After, the drone would self-destruct, erasing the blame. Additionally, swarms of drones need only one

[43]Ibid.
[44]International Committee for Robot Arms Control. Homepage. Accessed December 26, 2020. https://www.icrac.net/.
[45]Bartlett, Matt. "The AI Arms Race in 2020." Towards data science, June 16, 2020. Accessed December 26, 2020.
        https://towardsdatascience.com/the-ai-arms-race-in-2020-e7f049cb69ac.
[46]Ware, Jacob. "Terrorist Groups, Artificial Intelligence, and Killer Drones." Texas National Security Review, September 24, 2019. Accessed
        December 26, 2020. https://warontherocks.com/2019/09/terrorist-groups-artificial-intelligence-and-killer-drones/.

human controlling them, reducing the amount of manpower in terrorist groups. The threat of automated drones increases as only a gun and GPS is needed to cause harm. As early as 2016, ISIS had manufactured drones to drop grenades while completing successful drone attacks.[47]

Additionally, AI weaponry and terrorism do not always relate to ammunition. AI Chatbots could be utilized during hostage situations, and these systems could map land and plan attacks to a newly sophisticated degree.[48] As society progresses towards a world dependent on electronics, this same technology is advanced enough to hack national databases, threatening digital security. Also, AI is largely being developed in the non-governmental sector, making it prone to hacking from terrorist groups. In total, AI has the potential to play a plethora of noncombative roles in terrorism.

Furthermore, Texas national security review identified three qualities that attract terrorists to AI: low cost, difficult traceability, and consistent effectiveness.[49] As mentioned previously, AI weapons are cheaper to manufacture than other nuclear munitions. Weapons specialists project that in the near future, the price of manufacturing one drone will equal that of producing a mobile phone.[50] Secondly, the range AI gives terrorists leads to a lack of traceability. Sending drones to attack from thousands of miles away along with the ability for easy self-destruction makes it virtually impossible to trace the strike back to the original perpetrators. Finally, AI is one of the most effective methods of killing humans. Terrorists can wreak havoc by using AI to kill individuals and cripple nations. The convergence of these tenets is shockingly fatal, as no other weapon has all three in such robust capacities.

Counterterrorism

On the other hand, AI is equally useful in combating terrorism. AI weapons developed nationally compared to individual construction have the same effectiveness, if not more, as they possess governmental resources terrorists lack. Also, AI can scour the internet for terrorist plans, helping officials stop attacks before they happen. Furthermore, databases from AI surveys and analyses will further strengthen counterterrorism efforts.[51] Similarly, AI has state-of-the-art facial recognition skills to track known terrorists and prevent them from crossing national borders.[52] Counterterrorism goes beyond just defense, and many NGOs have been pushing for bans on AI to hinder any plots terrorists might have, although groups like ISIS already have access to this technology. While the combination of AI weaponry and terrorism is frightening, a full ban would bar nations, not just terrorist organizations, from developing weapons for anti-terrorist purposes. In summary, delegates must analyze both the pros and cons within the complicated relationship between AI weaponry and (counter)terrorism.

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[47]Gartenstein-Ross, Daveed. "Terrorists are Going to use Artificial Intelligence." Defenseone, May 3, 2018. Accessed December 24, 2020.
https://www.defenseone.com/ideas/2018/05/terrorists-are-going-use-artificial-intelligence/147944/.
[48]Ibid.
[49]Ware, "Terrorist Groups, Artificial Intelligence."
[50]Ibid.
[51]Siddiqui, Huma. "Combating terrorism through artificial intelligence." Financial Express, May 19, 2020. Accessed December 23, 2020.
https://www.financialexpress.com/defence/combating-terrorism-through-artificial-intelligence/1963627/.
[52]Ibid.

<u>The Ethical Dilemma</u>

When addressing the development and use of AI technology as a whole, specifically weaponry, where do nations draw the line? With current AI, there is always a human in the loop, directly allowing for another human to be killed or making initial decisions for a mission. At some point however, AI will become wholly autonomous and AI accuracy will surpass human capabilities. When the margin of error disappears, do nations allow AI to gain full control? Ethicists have theorized that people feel a primal need to place blame on other humans. From this desire stems the need for humans to control the killing, but AI disrupts this process unlike any other weapon. In some ways, it feels moral to continue direct human to human combat, as humans consider themselves to be the supreme judge of character and real-time danger. However once AI becomes more accurate than humans, is it more righteous to give the more reliable option the control over ending lives? Therefore, the moral implications behind AI are incredibly complex when developing a solution.

<u>What Comes Next?</u>

The world is only at the tip of the AI development iceberg. Any regulations must consider the various viewpoints, relation to terrorism, ethical complications, and unique benefits only AI can supply. Nations have already begun developing AI weapons, and it is only a matter of time until they are utilized in large quantities. Delegates must act now to formulate an innovative resolution that addresses this multifaceted topic.

Questions to Consider
1. To what extent are AI weapons necessary to both developed and developing countries? How does the development/use of AI differ based on the economic status of a nation?
2. What regulations could be implemented to ensure distinctions between civilian and insurgent? How will perceived gender and race play a role in identification technology?
3. How can nations, both developing and developed, work to rehabilitate regions targeted by AI weapons? To what degree are humans and/or nations responsible for the aftermath AI weapons cause?
4. Is autonomy an attribute of a weapon system as a whole, or should it be attached to different tasks of weapons systems?
5. What regulations will prohibit terrorists from deploying AI, while allowing its use for advancement within nations?

Regional/Bloc Positions
<u>China, Russia, and the United States of America</u>

These three countries have begun developing and implementing AI weaponry in a significant fashion. Delegates must acutely examine their nation's past experiences with AI to create pragmatic regulations that prioritize human rights. Furthermore, delegates should aim to avoid outright competition as innumerable dangers come with it. Delegates must also consider

the implications of a full ban, and how their existent arsenal would factor into this equation. In total, delegates from the US, China, and Russia must use their leadership and history regarding AI weaponry to provide insight during this committee.

NATO Members

Nations who belong to NATO must acknowledge their more developed nature, and how this puts them in an elevated position regarding the development of AI weaponry. Delegates representing NATO nations should focus their resources on rehabilitation and humanitarian aid. Also, as both a buyer and a seller, NATO members must consider the international market which encompasses illegal trade and manufacturing. Economic difficulties developing nations face when creating AI weapons should be considered, and delegates from NATO must aim to create a fair environment for all nations.

Developing Nations

Although these nations do not have the financial resources to devote sectors of their government to AI weaponry, they are equally pivotal to discussing regulation. Delegates representing developing nations should consider how AI weaponry could affect their country, and work toward regulation that is acceptable for all nations.

Asian Nations

As the leading producer of technology for the rest of the globe, Asian countries should take into account the pros and cons regarding the exportation of AI weapons or their parts. Similarly, Asia's large population could play a key role in manufacturing great quantities of AI weaponry, intensifying the risk of regional dominance. Also, delegates from Asia must consider how AI weaponry will affect border relationships, specifically between North and South Korea. In short, delegates must consider the economic and militaristic consequences of AI weaponry.

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