Boston University Academy Model United Nations Conference X

Saturday, January 29th to Sunday, January 30th, 2022

Boston University Academy

Boston, MA

UN COMMITTEE: DISARMAMENT AND INTERNATIONAL SECURITY (DISEC)

Background Guide

Introduction from the chair and vice-chair:

Hello, Delegates:

For this year's conference, we have chosen two topics to discuss: submarines and their use in the military and artificial intelligence. In this committee, we will be focusing on submarines and AI as threats to international security. This background guide has some background information, but it is important that you do your own research and discuss how these threats may affect your country.

We're looking forward to meeting you at the conference,

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Committee Information:

DISEC deals with disarmament, global challenges, and threats to peace that affect the international community and seeks out solutions to the challenges in the international security regime.

It considers all disarmament and international security matters within the scope of the Charter or relating to the powers and functions of any other organ of the United Nations; the general principles of cooperation in the maintenance of international peace and security, as well as principles governing disarmament and the regulation of armaments; promotion of cooperative arrangements and measures aimed at strengthening stability through lower levels of armaments.

Position Paper Guidelines:

This committee requires two position papers. They will be on the topics of submarines and their use in the military and artificial intelligence. The absence of at least one position paper will disqualify you (the delegate) from receiving an award. The quality, depth, and clarity of your position paper(s) will influence award decisions. Each position paper should be 1-3 pages and double-spaced. This includes citations which are preferably in the format of footnotes. To insert a footnote, simply click *Insert* > *Footnote*. Note: a footnote goes after the period. Position papers should follow a general outline with three paragraphs. This is only a suggestion, as long as the paper fits the aforementioned specifications, the number of paragraphs will not be taken into consideration.

Possible position paper outline:

1) Introduction to your delegation and the topic as a whole.
2) The position of your delegation.
3) Your delegations proposed solutions.

Furthermore, the position paper must be titled in the following format:

Delegation: Loeina Sooch and Emmanual Smirnakis

School: Boston University Academy

Committee: DISEC

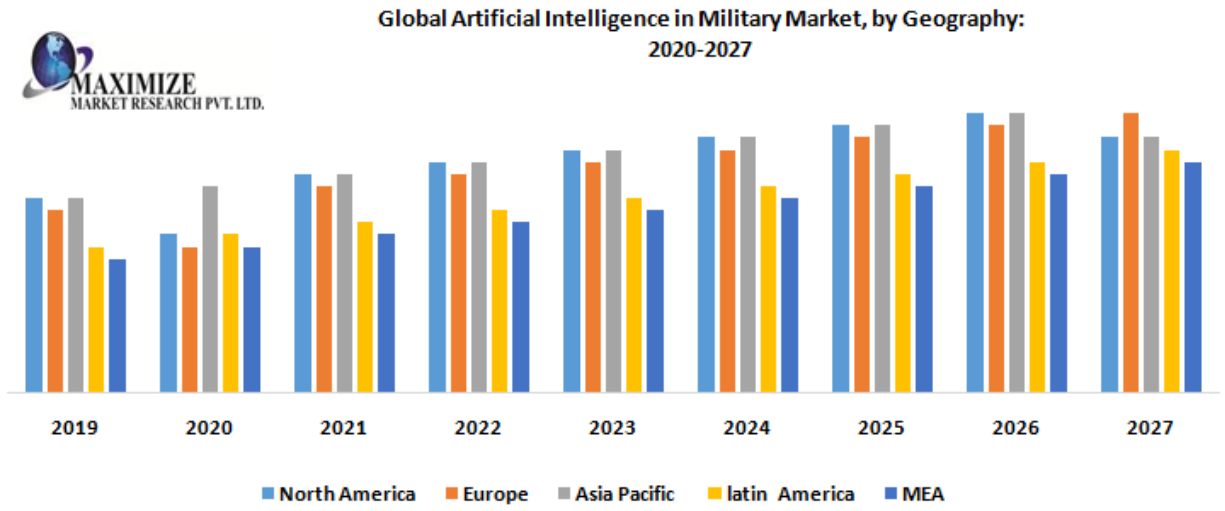
Position: _____

Topic: _____

Topic 1: *Artificial Intelligence*

General Overview:

AI, or artificial intelligence, is the branch of computer science relating to building machines designed to mimic human intelligence or think like humans. It is a rapidly evolving field. A Turing test is a way of determining whether a computer can think like a human being, for example, a CaptCHA. However, computers have been getting smarter and, thus, CaptCHAs have been getting more difficult. Researchers have estimated that AI will be able to pass all Turing tests as soon as 2029. At that point, it will be impossible to make a test to distinguish between a computer and a human.

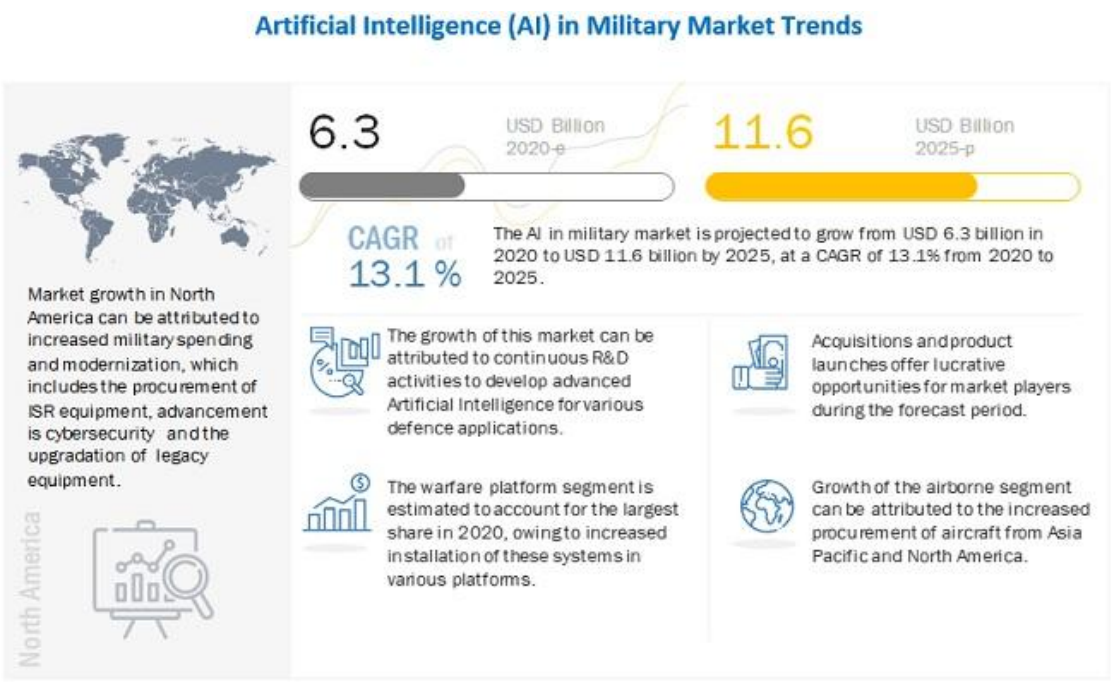


The American military has been using AI extensively and has downplayed concerns about it, however, they have adamantly maintained that the decisions to kill others will be made by humans only rather than AI. One example is that they put AI into flight simulators and found the AI flight simulators to be as skilled as humans in fights. These AI pilots could be useful tools but will not be used without a human pilot in the plane.

Many people have considered AI to be a threat to human rights. Stephen Hawking believed that “The development of full artificial intelligence could spell the end of the human

race."[1] Elon Musk said that AI is humanity's "biggest existential threat."[2] The threat of AI is that AI machines will pursue their own goals regardless of the intent of the people who made them. One example is that an AI that is coded to improve its own chess evaluation would have that as its only goal in mind, and it may even wipe out all of humanity to harness computing power to pursue its goal. This is a possible worst-case scenario for when AI is much more powerful than humans which illustrates the threat.

Lethal Autonomous Weapons Systems powered by AI raise questions of morality and regulation in governments across the world. Since the dawn of humanity, civilizations have raced to create ever more powerful weapons to defeat their adversaries in conflict. These have been regulated by international humanitarian laws. However, when AI is used, the administration of violence moves from the hands of humans to the hands of machines. Thus, it becomes less clear how humanitarian law can regulate violence at the hands of machines that are not human. Weaponization of AI removes human control completely from machines that can act on their own. These machines generally follow a structured program, but can receive their own information from the environment, acquire, select and decide to attack their targets.



[1] "Stephan Hawking warns artificial intelligence could end mankind." *BBC News*. https://www.bbc.com/news/technology-30290540.
[2] "Elon Musk: artificial intelligence is our biggest existential threat." *The Guardian*. https://www.theguardian.com/technology/2014/oct/27/elon-musk-artificial-intelligence-ai-biggest-existential-threat.

Weaponized AI can often include unmanned mobile vehicles of naval, ground or air uses. Optical, infrared, radar, or sonar detectors can be used by autonomous weaponized vehicles, allowing them to detect potential targets and take in information from their surroundings.

Many AI systems are trained using data that has been labeled by some expert system (usually a human). Large datasets are often labeled by companies that employ manual methods. Obtaining this data and sharing it is a challenge because most organizations involved often classify data rather than release it. Images produced by thermal-imaging systems are an example of a dataset. These are labeled by experts to describe the weapon systems found in the image. AI systems are also vulnerable to becoming very large and slow. Another weakness of AI systems is that the decisions made by the system are often hard to explain. Most of what occurs inside an AI system is a black box and there is very little that a human can do to understand how the system makes its decisions.

Further Research:

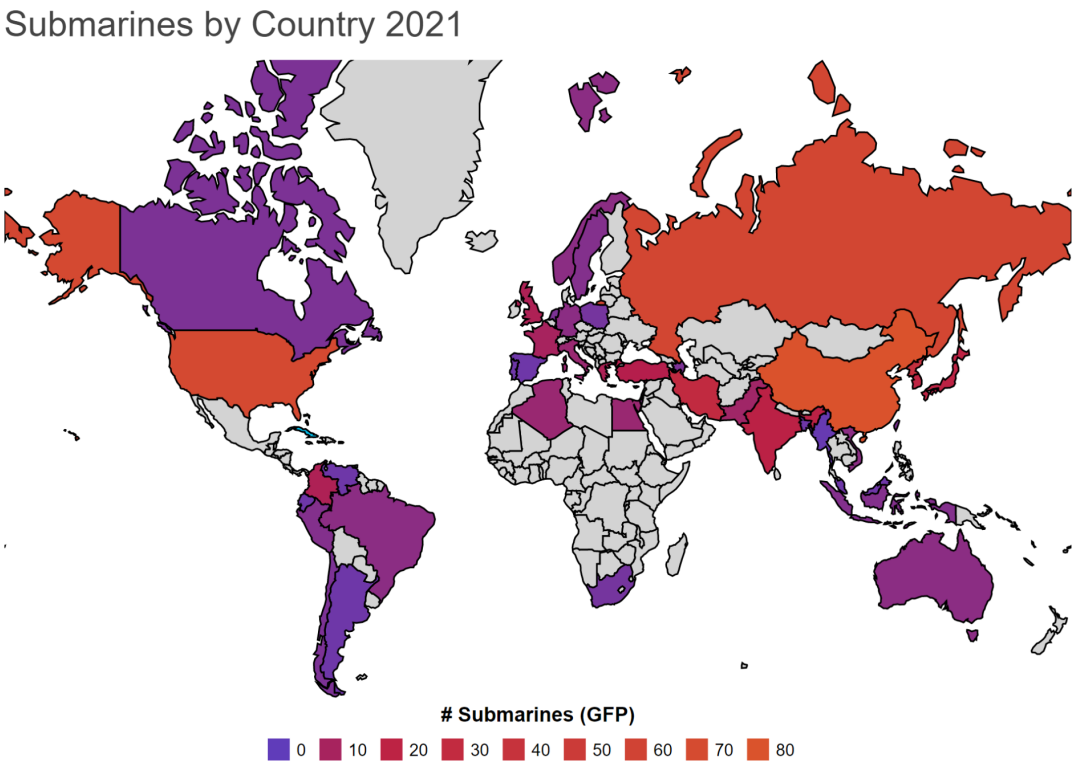
1. https://www.npr.org/2021/09/16/1037902314/the-u-n-warns-that-ai-can-pose-a-threat-to-human-rights#:~:text=UN%20Report%20Warns%20Artificial%20Intelligence%20Can%20Threaten%20Human%20Rights%20A,by%20state%20and%20private%20actors.%22
2. https://proceedings.neurips.cc/paper/2018/file/8562ae5e286544710b2e7ebe9858833b-Paper.pdf
3. https://www.sciencedirect.com/science/article/abs/pii/S0031320318302565?via%3Dihub
4. https://nvlpubs.nist.gov/nistpubs/ir/2019/NIST.IR.8269-draft.pdf
5. https://defproac.com/?p=7231
6. https://www.maximizemarketresearch.com/market-report/artificial-intelligence-in-military-market/12512/

Bloc Positions – Topic 1:

United States, United Kingdom, Germany, China, France, Canada, Switzerland, Japan, Russia: supporting the use of Artificial Intelligence in the military. These countries have the largest shares in the field.

Australia, Netherlands, Italy, Spain, Israel, South Korea, Sweden, Belgium, Austria, Singapore, Norway, India, Denmark, Finland, Portugal, Russia, Turkey, Iran, Afghanistan, Colombia, Greece, Brazil: Smaller shares in the field of Artificial Intelligence. These countries should raise the question of the morality and dangers of artificial intelligence. These countries can also be neutral.

Topic 2: *Military Use of Submarines*

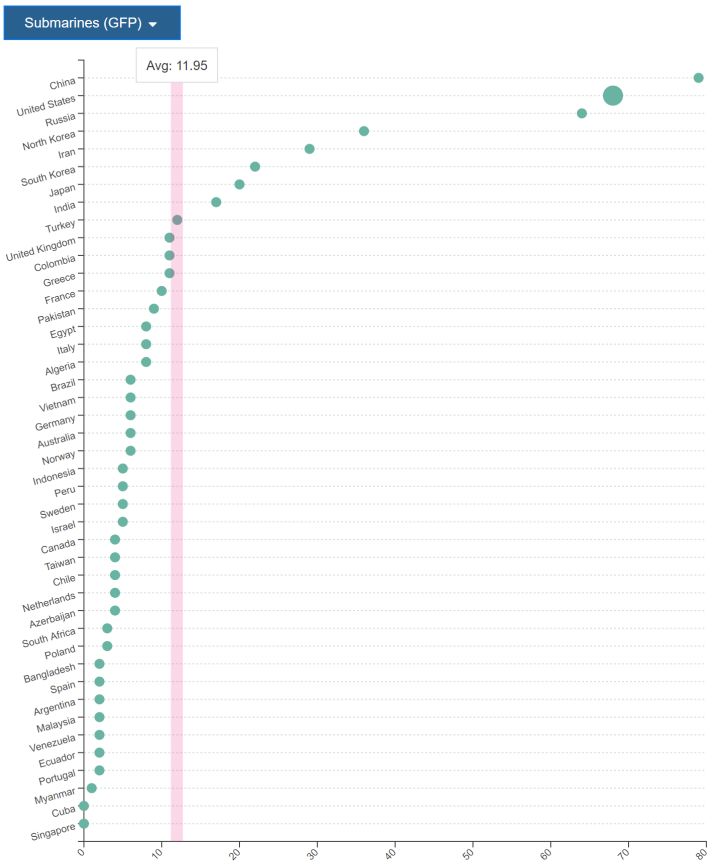


Top Ten Largest Military Submarine Fleets (Global Firepower 2021):

1. China - 79
2. United States - 68
3. Russia - 64
4. North Korea - 36
5. Iran - 29
6. South Korea - 22
7. Japan - 20
8. India - 17
9. Turkey - 12
10. Colombia, Greece, United Kingdom (tie) - 11[3]

[3] "Submarines by Country 2021." *World Population Review.* https://worldpopulationreview.com/country-rankings/submarines-by-country.

The first functional prototype of a submarine was created by the Dutch inventor Cornelius Drebbel in the early seventeenth century. This original model was likely a modified row boat propelled by a group of oarsmen, which may have used bladders, wooden ballast tanks, or weights to submerge. The blueprint for the submarine which was displayed in a demonstration for Londoners on the River Thames has been lost, so the details of its construction are unknown.



The first use of a submarine in a military operation happened in the American Revolutionary War, with a vessel known as the Turtle. The submarine Turtle was designed in 1771-1775 by David Bushnell. There were four basic requirements for a successful military submarine: the ability to submerge, the ability to maneuver under water, the ability to maintain an adequate air supply to support the operator of the craft, and the ability to carry out effective offensive operations against an enemy surface vessel. The Turtle was the first to use a screw propeller and a ballast for submerging and raising the submarine. The Turtle was used in an unsuccessful attempt to attach a bomb to a British Royal Navy vessel in New York Harbor.

In the modern world, submarines began to become more sophisticated and useful in combat. The United States Navy, a current submarine superpower, purchased its first submarine in April of 1900. The boat was designed by John P. Holland. While underwater, the submarine was propelled by electricity and gasoline. This vessel was named the USS Holland and used mainly for experiments on the effectiveness of underwater combat. On April 11, 1900, the U.S. Navy acquired its first submarine which was designed by John P. Holland (an Irish immigrant).

For some time, submarines existed but were not used much in military efforts. It was not until World War I that submarines proved to be very effective and deadly contributors to the war effort. Germany used submarines to cut off Britain's supply route by sinking merchant ships. Many of their watercraft were capable of laying mines and firing torpedoes at British shipping vessels. At a critical point in the war, Germany declared unrestricted warfare on naval vessels around Britain. The use of U-boat submarines in attacking civilian ships prompted the United States to enter the Allied war effort against Germany during World War I. Submarines played a crucial role again in the warfare of World War II. The Imperial Japanese Navy operated the most diverse fleet of submarines in the war, including midget submarines, medium-range submarines, and long-range fleet submarines. Japan also deployed the fastest subs, subs that could carry multiple aircraft, and subs equipped with the most advanced torpedoes. Despite Japan's superiority in submarine warfare and innovation, the submarines of the allies in World War II also proved quite effective in military operations. The United States' submarine fleet was able to sink over 30% of Japan's Navy, and severely cripple Japan's economy by targeting shipping fleets. On both sides of the war, submarines contributed significantly to success.

Today, many nations maintain at least a small fleet of submarines to patrol their waters or use in military operations when the need arises. These submarines are useful for deterring enemy ships from entering local waters in times of hostility and keeping nation boundaries secure by sea. World War I, World War II, and the Cold War were large drivers of submarine innovation, paving the path for today's navies. The US army now operates three different types of submarines: Attack Submarines, Ballistic Missile Submarines, and Guided Missile Submarines. Ballistic Missile Submarines can act as nuclear deterrents due to their capability of deploying missiles with nuclear warheads from thousands of kilometers away. Russia and the US have the largest fleets of this type of submarine, as they were critical weapons during the Cold War. Attack Submarines are submarines constructed for sinking other submarines, military ships, or merchant fleets. These submarines can be used on the offensive, but also act as protection for other vessels in the navy. Often, these submarines are either nuclear or diesel-powered, and use torpedoes in battle. Guided Missile Submarines launch cruise missiles, which are useful for attacking land targets from the sea. These vessels are designed to hit surface targets from a long distance, and, thus, do not need to be fast, easily maneuverable submarines. The missiles on these types of submarines are guided in order to hit their target, usually utilizing either a human

or computer to steer the missile or a system in which the missile can guide itself to a source of radar emission. Modern submarines have evolved drastically since their original creation in the seventeenth century, and have become integral to the militaries and defense of many countries bordered by the sea. Currently, the largest submarine fleet is operated by China, with the second and third largest being the United States and Russia.

Further Research:

1. https://apnews.com/article/north-korea-nuclear-869f65e61b7eae75638683571d04923c#:~:text=North%20Korea%20has%20an%20estimated,torpedoes%20and%20mines%2C%20not%20missiles.
2. https://www.forbes.com/sites/davidaxe/2021/06/08/chinas-submarine-fleet-is-huge-the-us-navy-plans-to-whittle-away-at-it-with-mines/?sh=6b96ed04297a
3. https://man.fas.org/dod-101/sys/ship/submarine.htm
4. https://worldpopulationreview.com/country-rankings/submarines-by-country
5. https://www.theworldwar.org/learn/wwi/unrestricted-u-boat-warfare
6. https://www.history.navy.mil/browse-by-topic/communities/submarines.html

Bloc positions – Topic 2:

China, United States, Russia, Iran, South Korea, Japan, India, Turkey, Colombia, Greece, United Kingdom: Supporting the use of submarines.

Australia, Germany, Netherlands, Italy, France, Sweden, Belgium, Austria, Brazil, Finland, Spain, Denmark, Portugal, Israel, Singapore, Norway, India, Afghanistan, Canada, Switzerland: May be neutral or opposed to the use of submarines in the military.