NOTE FOR NATIONAL DEFENCE:
Artificial Intelligence: International Security and Foreign Policy

Authors: M. R. Nematollahi [1] and K. Khorasani[2]

[1] Graduate Student, Department of Electrical and Computer Engineering, Concordia University, Montreal, Canada

[2] Professor, Department of Electrical and Computer Engineering, Concordia University, Montreal, Canada

SUMMARY

- Within the context of military planning, AI has been recognized as the type of technology that enables commanders to deliver firepower at machine speeds with 100 percent accuracy in order to meet their military objectives with minimum risk.

- As with the introduction of AI into the field of military practice, techniques such as machine learning (ML), deep neural networks (DNN), and reinforcement learning (RL) have enabled a break from past weapons through shifting from rule-based deterministic systems to more data driven and outcome-oriented systems.

- Not only AI will reshape the ways in which wars evolve and progress, but it will also influence and alter the geopolitical domain. The struggle for an economic edge within the cyber domain is equally important when compared to military competition. Currently, the highest competition for gaining both security and economic benefits seems to be occurring between China and the United States.

- Arms control specialists have so far been used to dealing with tanks and missiles and are not properly familiar with the ways in which data and algorithms must be dealt with within a military context. Their previous negotiations normally have occurred at a time-managed pace and the mostly sought outcomes have involved hard laws and intrusive verification regimes. However, these "old ways" are hardly applicable to the monitoring of next Gen autonomous and intelligent systems.

- It is necessary to develop and intensify cross-domain literacy. AI must not be limited to only coders and cognitive scientists; nor must its security implications be restricted to the authority of diplomats, generals, and lawyers.

- Under the current circumstances, in which nations suffer trust deficits and multilateral negotiations are looked upon as the use of legal system to achieve certain opportunities, the wiser and more practical approach would be the attempt to enhance shared values and ethical principles.

- According to the dynamic and wide-ranging nature of AI, the consequences and reverberations of this new technology have often been debated and contested as many believe that it will turn value chains upside down, disrupt labor markets, and shift the economic power to those who succeed in taking over the AI technology.

- While it seems to be a global issue, it is almost absent from the foreign policy agenda, public diplomacy, and no solid foundations for dealing with the emergence and growth of AI in international affairs have been formally and extensively been laid out yet.

CONTEXT

- The notion of employing autonomous and intelligent systems for the purpose of planning wars without body bags is specifically appealing to nations dealing with demographic decline while having rich populations averse to conflict.

- Application of AI into conventional weapon systems and transmission of more data volume solves the problem of hunting nuclear submarines in the depth of the oceans. Force will be delivered in new ways. Also, soldiers will have to do less dirty, dangerous, and dreary tasks as their responsibilities will be handed over to autonomous systems.

- Consulting firms estimate that by 2035 AI will have doubled the annual economic growth rates in twelve developed economies and the biggest global impact will occur in just two geographies: China ($7 trillion) and North America ($3.7 trillion).

- The first casualty in the struggle for AI dominance has been mutual trust. In addition, it has raised concerns regarding the question that whether AI will decrease the threshold for the use of force in international relations or it will accentuate strategic instability.

- “Lethal autonomy is not so much about discrete, countable systems as it is about the penetration of AI into weapons capabilities. The technology landscape seems to shift about every six months and thus does not lend itself to rigid normative frameworks. Verifying training data sets and algorithms to ensure compliance with agreed-upon rules as lethal autonomy poses unique challenges compared to verifying production pathways no nuclear or chemical weapons”.

- Since AI has widespread impacts on huge populations it is vital that all members of the society have a deeper understanding of its influences on their lives and also have the right and ability to make decisions regarding this phenomenon. In other words, “governance of AI can only be

based on a correct understanding of the power and limits of the technology, and such governance can only be effective globally if it is part of a tiered approach that includes actors at the intergovernmental, national, and industry level".

- Although it might take some time to come to any agreement regarding the norms to govern military use of AI, but it is necessary to immediately influence and shift the direction of such use. A significant channel for shaping AI use globally is guiding principles short of binding law.

- The Group of Governmental Experts of the Convention on Certain Conventional Weapons on emerging technologies, comprised of 125 states and all the other countries actively participating in development and use of AI, in the area of LAWS (lethal autonomous weapon systems), in 2018, specifically focused on AI in the context of military employment and developed ten guiding principles. These guidelines particularly deal with matters such as international humanitarian law, human responsibility, accountability, risk assessment, risk mitigation, and the necessity for having a non-anthropomorphic view of such AI systems.

- The significance of human intervention came into light to emphasize the need for human supervision for the purpose of upholding compliance with international humanitarian law. The experts attempted to build up an ongoing dialogue with common understanding and vocabulary as a way of soft governance of AI. For this purpose, they have attempted to engineer certain standards and codes for assessing risk and aligning design with safety and reliability requirements.

- One of the most significant transformations that will probably happen under the influence of AI is the prospect of autonomous weapons capable of delivering lethal force, which requires immediate and urgent attention and scrutiny.

- These days most major capitals have established cyber-units for their foreign ministries. In think tanks and research institutes, cyber has turned into an urgent and significant issue to be studied. "New practices to tackle digital technologies that represent major changes in diplomatic work are few and far between—rarely matching the level of transformation in society at large".

- Throughout different stages, government, cabinet, public servants, political parties, legal system and the public are all involved in the policy cycle as actors. It is crucial to focus on effective communications among various stakeholders and target audiences so as to convey the message. The entire series of actions and procedures must be applicable to policy making in the field of AI.

- Foreign ministries are obliged to evaluate and examine the major issues that have been at play at the intersection of AI and international relations. These governmental institutions are responsible for policy making where it comes to security and ethical aspects of AI technology, and they must define and articulate certain guidelines, limitations and redlines.

- Diplomacy is bound to communicate their values and interests between various sectors such as the government, media, and the civil society. It is necessary to build and to promote awareness among all the parties that have been under the influence of AI in one way or another.

CONSIDERATIONS

- It has been suggested that the advancements in the field of AI will bring along alterations in traditional arms control thinking and warfare conduct which will change power equations. So, experts and politicians must think of new ways for building trust and confidence among the users, and certain norms, principles, and standards will be needed to manage AI's international security implications.

- It seems that AI will continue to widen the gap between China, USA, and the rest of the world. However, it might be possible to mitigate this condition by conducting less-data-hungry techniques and relying on new ways of combining cyber and physical capabilities. Also, "smart regulation and social trust could create a competitive edge for certain regions provided that trained human resources are available in the right entrepreneurial environment to seize the opportunity".

- "Shifting capabilities in combat to the 'edge'—where data is being generated and rapid computing responses are required— […] could make war termination more difficult". Therefore, it is necessary that governments develop a combination of responsible doctrines to build trust, confidence and dialogue among nations, as a result of which, measures for restraint and shared norms will be accomplished. Learning from past failures that were not catastrophic, the toolkit of arms control must be created and the mindsets of practitioners will have to evolve.

- The current AI technology and resources rest with the private sector which does not participate in forums on disarmament, international security, and arms control. Therefore, it is crucial that economic, political and security implications of AI will be examined and taken into closer and more careful consideration.

- Currently no state admits to the possession of any kind of lethal autonomous military weapons. Consequently, to build mutual confidence and trust, the only option would be to build up dialogues and discussions regarding the nature and existence of such systems to shed more light and clarity on cybersecurity and arms control, so as to develop approaches to re-purposable civilian capabilities.

- Also, the private sectors must be engaged and become a part of this ongoing discussion as it is crucial to involve both government and nongovernment parties. By increasing mutual and in-depth understanding, the use, testing, and validation of AI must be studied and re-examined.

- It is also recommended that the best practices and cautionary experiences be shared and more importantly, the competitive mindset changes into a more collaborative problem-solving one, using data and algorithmic insights either shared by the participants themselves or supervised by a trusted third party.

- "The top priority in this area is updating arms control and non-proliferation strategies to deal with an escalating AI arms race. In particular, this means aligning major powers around common policies (such as limitations on offensive capabilities) and working together in the common interest of guarding against these weapons falling into the hands of terrorists. For this goal to be accomplished, the potential risks and threats of AI must be evaluated and moral redlines must be established using significant public diplomacy."

- Likeminded allies have to concentrate on building an ongoing dialogue in order to exchange their knowledge and perspective in this field with the purpose of aligning the public policy choices.

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