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ARTIFICIAL INTELLIGENCE AND FOREIGN POLICY

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ABSTRACT

Global security and foreign relations seem to be the newest workshops for artificial intelligence innovation and its applications. The multi-dimensionality of today's AI and machine learning is already having a profound influence on how nations look to conduct their foreign affairs, one of the most recent cases being China. As artificial intelligence tilts the center of gravity in world affairs towards the technologically advanced countries it becomes imperative to talk about the confluence of the two holistically. The already identified issue areas and priorities need to be put in context, and the benefits need to be discussed parallel with the possible criticism and disruptions that it will cause in our society. In this regard, the paper attempts to look at the linkages between foreign policy and artificial intelligence. It will look at both the ways in which AI can be used in the sphere of foreign policy and also create a bedrock of understanding the ramifications that AI poses for policymakers and particularly what it would mean for foreign policy.

Keywords: Artificial Intelligence, Foreign Policy, Technology, International Relations

Introduction

The famous historian and author Yuval Noah Harari on the topic of AI and the impact of data on the future of our society has said "those who control the data could eventually reshape not only the world's economic and political future but also the future of life itself." Indeed, the recent and upcoming developments in Artificial intelligence are bound to play an integral role in global affairs and more so in the ambit of foreign policy and strategy-making. It would be wise to clarify the technical aspects of the topic regarding their meaning. Terms like Machine learning and artificial intelligence are often used interchangeably, without understanding the slight but relevant functional differences between them. Both denote the use of algorithms and a way to harness the huge processing powers of computers. There are algorithms that use the data gathered in a way that analyses and creates patterns and correlations to understand the given

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information in a much comprehensive manner, come under the ambit of Artificial intelligence or narrow AI. AI is a term that carries a different meaning depending on where it is used. However, for understanding it here, it refers to technologies that enable machine learning, natural language processing, deduction power, and ultimately, automated decision-making. It's not only due to the pattern analyzing capabilities that make AI and algorithms useful, but the size of data that is available in our modern world is just too much for the human capacity to analyze. We already have AI in a limited capacity existing in our environment. It is already helping us to navigate, to translate text and to find cheap hotels & flights and – if not concerned with its limitations and concerns – it looks set to be indicative of fundamentally transforming the future. The most obvious concern being of artificial intelligence tool taking control of its actions. That is known as an Artificial General Intelligence or AGI and would require a broad-based technological leap in every aspect of the field: hardware, software, and even our understanding of what cognition is.[1] So in simpler words, any concern over a robot revolution, or self-motivated robots running around will remain fiction without very substantial, nonlinear advancements in the technology. It is worth emphasizing that machine intelligence or AI systems are not conscious: they lack self-awareness, motivations, and intentions. They cannot explain their actions or mistakes. They are entirely reliant upon the algorithms that are programmed into them and the data they consume. Fears that robots will come to resent and overtake humans are unwarranted. Without very substantial, nonlinear advancements in the technology, the AI of science fiction will remain fictional. However, the argument by various research scholars around the world is that technological evolution does not have to be dramatic or abrupt to create significant shifts in power structures or social lives. Indeed, this distracts us from building a better understanding of the technology itself and about what all it offers. This paper aims to set to create a bedrock of understanding the importance and ramifications that AI poses for policymakers and particularly what it would mean for foreign policy.

Linkage between Foreign Policy and AI

Politics, as it is commonly understood (as the mechanism by which competing objectives are weighed against each other), is an inherently complex task that reflects the complexity of human behavior both on an individual level and a mass scale. Hence, it becomes all the more valid at the level of international relations. So to talk about the impact of something as complex and intrusive as Data and AI concerning political affairs only increases the complexities of the topic.

The foreign policy of a nation is the general expression of its most immediate aspirations, which is dynamic, evolving with a country's understanding of itself and its place in the world. Management of foreign policy and relations is one of the most arduous and complex tasks due to

[1] (Cummings, Roff, Cukier, Parakilas, & Bryce, 2017)

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the divergent national interests and foreign policy objectives of various nations in addition to the multitude of other conflicting strategic interests. Nonetheless, all the countries in the domain of their bilateral relations and as well as running together on global forums try to ensure how to best serve their national and strategic interests. Each country, consequently, maintains several well-defined narratives and aims to accomplish them. The success of such policy aspirations depends on a mixture of internal and external factors, and developments are taking place in the region as well as at the global level, which has a direct bearing on the policies of a particular country. Global security arena and foreign affairs seem to be the newest areas for artificial intelligence innovation and applications. The multi-dimensionality of today's machine learning and AI is already seen to have a profound impact on how countries manage their foreign affairs.

The possibility of rapid and constant communication morphed the boundaries of possibility in every field, foreign policy and strategic thinking was no exception to this. About a few years ago the Internet was the thing in our society and a defining development for foreign policy and international relations. In a field where communication meant everything, the dawn of the internet brought about fundamental changes in the realm of policy making — the age of innovation. The long time that it took for policy-makers to understand the importance and profound ramifications posed by the Internet was too long, but the incorporation happened nonetheless. The officials utilized it in every sense, the technology was adopted and since the Internet offered a new dimension to the concept of connectivity itself even the companies are used as tools to conduct foreign policy themselves. The sharing of its technology, creating connectivity in remote African nations often becomes an agenda in US foreign policy.

The cycle of technological development is now turning again. The new, transformative, general purpose technology is Artificial Intelligence (AI).[2] One of the primary tasks of a foreign ministry or department is the collection of information and data on the actual happenings in the world and its correct interpretation in the terms that best help the decision-making process to have a national benefit. The rational choice model is often identified as the paradigmatic approach to study the decision making in the realm of international relations and foreign policy. Foundationally emerging from economics,[3] rational choice conceives of decisions as means-ends calculations.[4] Decision-makers choose among a variety of options by their given information and expectation that the choice selected will serve some goal better than the alternatives. This is frequently framed in terms of a simple cost-benefit analysis; decision-makers are expected to select the choice which has greater expected net benefits than those of other alternatives under consideration. The rational approach is only one of the approaches towards foreign policy

[2] Brynjolfsson, Rock, & Syverson, 2018

[3] Von Neumann and Morgenstern 1944; Friedman 1953

[4] Zagare 1990; Morrow 1997

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decision making, but all of them highly depends on the information that the decision makers get and their understanding of the information.

In this context, big data and Artificial Intelligence can aid and assist a country and its various actors in making rational choices by having a wide range of information at hand, and making it easier to then rank them in order of preferences and prioritize one's needs. Having such information also enhances the process of negotiation, increasing the possibility of an integrative negotiation to take place between the parties. In other words, it helps in 'expanding the pie' and creation of mutually rewarding scenarios for both sides by assisting in communication about each other's stance and cultural and political contexts.

Analytics can also be used in the offline environment to study customers' in-store behavior to improve store layout, product mix, and shelf positioning. McKinsey reports that "recent innovations have enabled retailers to track customers' shopping patterns (e.g., tracking path and time spent in different parts of a store), drawing real-time location data from smartphone applications (e.g., Shopkick), shopping cart transponders, or passively monitoring the location of mobile phones within a retail environment."[5]

Progress in AI-powered drone technology will soon put low-cost, precision weapons in the field to conduct armed conflict without human risk to the attacking strength. Many corporations are planning to upgrade to the so-called "lights out" factory – where robots work 24/7 and handle all aspects from manufacturing, packing and shipping the products without human supervision. Amazon has reduced its "click to ship" time from 60-75 minutes to 15 minutes with robot labor."[6]The precision of AI-driven facial recognition software has advanced dramatically, permitting security agencies extraordinary new powers of surveillance. To demonstrate the foreboding potential, Chinese police have begun to display the names of jaywalkers on huge roadside billboards.[7]The expected transformations of AI intersect with current foreign policy issues in a significant manner. From the top, it is the possible impact on the global balance of power. The potential that AI brings to further national economic and security interests has triggered a heated competition among governments to try and attain a strategic edge over others. In this regard, China has employed AI with remarkable speed and efficiency. The Chinese national AI strategy attests to how seriously they take this technology, placing significant bets on the destiny of this industry.

Even Russia understands the importance of AI and its applicability. In a recent speech, President Vladimir Putin was quoted saying bluntly that the country that gains an advantage in AI "will be

[5] artificial intelligence the next digital frontier? *(McKinsey Global Institute (MGI), 2017)*

[6] Artificial Intelligence. The next Digital Frontier? *McKinsey Global Institute.*

[7] Chin, J. & Lin, L., 2017. China's All-Seeing Surveillance State Is Reading Its Citizens' Faces. *The Wall Street Journal.*

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the ruler of the world."[8] "The developments in AI and its field are set to redefine the Balance of both Economic and Military power around the world." The race for capability building in this field has brought to mind a similar competition over technological supremacy between world powers which marked scientific innovation. Much like the space race of last century this too has the potential to define the balance of global power for decades. We can already see the world leaders and policymakers taking notice of it and equating it to national strength and pride.

China's New Generation of Artificial intelligence Development Plan, released in 2017, echoes this view, saying, "Machine intelligence [is] the strategic technology that will lead in the future."[9] For example eight of the top 10 tech companies in the world are U.S. based, which allows the United States to exercise disproportionate power in cyberspace.

It is becoming clear that the nations' ability to produce and leverage AI tech will determine their industrial competitiveness. Going forward, the global distribution of wealth, income, and power will be increasingly determined by nations' ability to develop innovative AI applications and leverage those applications across their economies. In diverse areas as, health care, manufacturing, energy, retail, and advertising & media.

Implications of AI adoption

Global supply chains enabled by AI technology and Machine intelligence have inspired further global economic assimilation. The Information & communication technology (ICT) infrastructure and digital inclusion are also fundamental components of building influence for its advancement and support development and human rights in the developing world. The first step for policymakers is to develop a coherent strategy for investment in fundamental AI R&D. Countries including Singapore, Japan, the United Kingdom, Canada, France, and Korea have all announced major MI funding initiatives in the past two years, representing well over a billion dollars of backing for new R&D projects. When talking of targeted funding China dwarfs all other nations in the scale of its research ambition after the July 2017 announcement of the country's new AI development plan, local and provincial governments announced billions of dollars of support to the industry, with the cities of Xiangtan and Tianjin alone pledging a collective $7 billion to AI projects. The research and development into AI will not only turn in positive results for the army but also for military applications and provide a strategic edge regarding hard power too. Across the world, from China's People's Liberation Army (PLA) to the U.S. Department of Defense (DOD), there is a growing recognition that AI will drive or play an influential role in the next generation of military technologies. The nature of conflict is shipping from today's "informatized warfare" to "intelligentized warfare" or "algorithmic

[8] AP News, 2017. Putin: Leader in artificial intelligence will rule world. Associated Press.

[9] (China's State Council Plan, 2017)

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warfare." According to academic research and news reports, the use of AI to develop autonomous supply convoys, drone swarms, and remote medical care technologies have all seen significant investment all across the globe. These changes will have huge consequences to the evolution of the nature of war and armed conflict as we understand them today. To say that the military platforms and weapons will evolve and would be an understatement. AI systems are also bound to promote the development and deployment of entirely novel tactics, strategies and concepts of operations. As a greater share of decision- making on the battlefield happens at machine speed, human thinkers may be unable to keep up. [10]

For foreign policymakers, the issue of AI and defense sector deals with the debate which has two sides, one that fears the advent of lethal autonomous weapons systems (LAWS) referring to natural fear that develops along with the idea of machines being able to kill humans. Moreover, the risk of making human damage more easy for and increasing the chance of that tech getting into wrong hands. On the other side, the argument that this is an opportunity to free military personnel from the most threatening combat situations and help to mitigate the risks of individual bias and misperception in combat. The proliferation of AI capabilities in the private sector will provide broad, cheaper access to intelligent systems. Just like the cyber capabilities have armed small groups with the ability to damage national security on an unprecedented scale, AI may spur new and unexpected threats. There is also growing concern AI will also empower nonstate actors to develop new asymmetric warfare tactics. AI's capacity to create indiscernible counterfeits of audio and video provides one example, in 2017, Adobe illustrated a new product that, with 10 minutes of audio, can replicate a person's voice exactly in limitless artificial audio. The security implications for such a technology in the hands those who might misuse it are several. Hence there needs to be enough caution when talking about private development of AI tech especially when it cuts across security. [11]

Impact on nations

As leaders embrace AI-guided expansion strategies to boost economy and efficiency on a global scale, the technological development will affect the current global order with newly developing nations coming to the forefront. Countries like France, Canada, Germany, Singapore, South Korea, UAE, and India will rise on the global stage, due to their new policies on AI. With public-private partnerships' continued investment and aggressive plans with AI tech developing powers are transforming themselves around AI by issuing Strategic Investment and Skill Education

[10] Booz; Allen; Hamilton, A National Machine Intelligence Strategy for the United States, 2018, CSIS

[11] Booz; Allen; Hamilton, A National Machine Intelligence Strategy for the United States, 2018, CSIS

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policies to deal with the skill and investment shortage in their countries. In the AI-led era where the labor-capital equilibrium will turn towards automated mechanization, a strong talent pool with a background in science & tech and human capital will help competing nations attract business and investments on a global stage.

One thing becomes clear that the way to develop the AI and integrate it into the economy and various sectors is bound to be different for the developed world and the developing. The global south which has been actively exploring the possibilities and capabilities of AI to suit their needs, their policymakers should also be conscious of the difference in the impact and the disruptions that induction of AI will cause and same is true for its foreign policy decisions which include AI. To analyze how the developing countries should manage the AI it will be prudent to look at the health and structure of their economy and make policies suiting their employment trends and education levels.

AI technology development is primarily economic in its direction and thrust. It contains the potentiality to drastically alter the race between the major sectors and competitors in the global market. The global heat in R&D of AI points to the value of early market power and the likelihood that AI will reflect the early bird gets the worm sort of effect on the market environment. In addition to this since AI is bound to disrupt the value and flow of traditional product and big multi-national behemoths will play a significant role by competing for AI dominance around the world. Hence, a special priority in foreign policy should include the thrust in advancing and supporting the domestic AI sector, creating opportunities, easing the sharing of technology and at the same time safeguarding intellectual property.

However, it does not have to be a Hobbesian zero-sum game. There is a strong case to foretell that AI will create substantial economic growth and productivity for various set of nations and actors. Comparable to what we have seen with the advent of mobile age, according to researchers and scholars "AI utilization could permit some countries to achieve economic leapfrogging: skipping entire stages of development." In areas that deeply concern economic growth – such as healthcare or education and providing skill enhancement training which will initiate the desired acceleration in progress. The comparatively cheap costs in producing AI-powered tools could allow nations to gain a vital comparative advantage in global economics and increase access to life-enhancing technologies down the socio-economic chain. There is an essential development agenda implicit in AI market growth, one that assigns a moral responsibility on technologically advanced countries to share access to knowledge and means that advance overall human prosperity.

There is no doubt that the positioning for domestic national economic interests in international AI markets as well as an AI-inspired thrust in development program will be one of the critical objectives for foreign policy leaders. However, as market forces are bound to move quicker than policy-making, the focal points for foreign ministries are more to be rooted in risk management

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and specifically on two major issues: 1) concentration of economic power; and 2) job market disruption. Each of these poses significant threats to global economic stability as well as to national interests that cut across a variety of issues that would be best addressed in the foreign policy. Given the importance and scale of global developments in AI research, any national strategies on AI need to be informed by an overall international analysis of the development of the technology and its possible implications, which will provides Foreign Ministries with opportunities to identify the strategic implications of AI market formation and its influence on the global balance of power. The governments across the globe will be engaging in an apparent zero-sum game to shape emerging AI markets to achieve three goals.

1) accelerate the growth of a top domestic AI industry;
2) secure partnerships between old and new industries that do not cede the primary value capture of core domestic industries to foreign tech giants,
3) monitor/manage the acquisition of domestic technology companies, talent, and patents by foreign investors. These vectors will be shaped by each nation's desire to optimize its position vis-a-vis the new power structure of AI markets.

All nations, regardless of whether they are tech superpowers or not, are bound to feel the effects of the AI revolution. But there's an added challenge for those left behind in the race. It is bound to be disruptive especially for developing countries; It is in the labor market that we may see the most disruptive consequences of AI, as automation displaces large segments of the low and semi-skilled workforce with robots and software. Foreign policy makers must evaluate the rise of technological unemployment and job market polarization in nations and regions. Moreover, must track this phenomenon and plan for significant changes in global capital ow, labor dislocation and migration, and regional shifts in the balance of economic power. These economic changes could shape both domestic and foreign policy agendas. Labor markets around the globe will be affected by intelligent machines substituting for manual and cognitive labor in manufacturing, transportation, and data processing. In developed countries, the use of AI in software and robotics will lead to massive productivity gains that will owe predominantly to capital holders. This unbalanced productivity will put social welfare systems that are built on the taxation of labor, under pressure. Increased automation and joblessness will test the endurance of social safety nets and the credibility of governments promising economic mobility to the middle class. In developing countries, automation-driven unemployment will not only increase poverty but contribute to political unrest as trends of expanding economic mobility stagnate or even reverse. It does not give any clear answer to what will happen when large swaths of the labor force that have traditionally chosen industrial manufacturing as a way out of poverty are replaced by machines. The corporate search for cheap labor that characterized globalization in the 1990s reallocated wealth and economic opportunity with merciless efficiency – creating a new set of

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winners and losers around the world. Imagine a similar wave that displaces the low-wage labor success stories in Asia and Latin America with robots and automated production.

The official Indian think tank NITI Aayog established a national agenda to stir R&D of Artificial Intelligence, promoting to build a talent pool and infrastructure to support the data requirements. The government of India also doubled the allocated budget for the Digital India program in 2018-19 to ₹3,073 crore. They also constituted an 18-member AI Task Force which published a six-part recommendation that covered the most significant aspects in AI growth. India plans to take advantage of the large pool of IT specialists who can be well tutored in emerging technologies to create more opportunities in the domestic market. However, currently, India trails behind AI superpowers in academic work published, the filing of patents for AI-related components and R&D. To top it off, the prevalent dependencies on global products (such as Google Maps) powering local Indian companies will inhibit homegrown efforts.

Conclusion

Through the research it is easy to agree with Putin when he says that the nation with an edge in AI are bound to rule the world. “The developments in AI and its field are set to redefine the Balance of both Economic and Military power around the world.” The integration of AI with foreign policy as clearly laid out in the arguments above proves that it is utmost important to begin the process as soon as possible while watching out for the limitations that AI brings. The bureaucracy needs to traverse the learning curve as soon as possible for AI to assist with the development of the nation.

The current AI revolution is more influential than the 18th-century industrial revolution for the most obvious reason that it has overwhelmed not only the industries but also the private lives of ordinary citizens. It is proving that there is no escape from it. Hence, to prevent polarisation and imbalance of power, AI knowledge and expertise should be spread around the world and throughout the masses. To understand humans, states and corporations and their relations to each other one needs access to enormous amounts of information about real-life human behavior, which makes data perhaps the most critical resource in the world. This data in this century is freely available and needs only to be appropriately mined. The governments and companies based in the United States and China currently dominate the world when it comes to data mining. If such a trend continues, then the world could soon observe a new kind of colonialism—data colonialism—in which raw data is mined in countries all across the globe and processed mainly in a single country, and then used to execute control across the globe. The developing nations should take this trend in consideration while drafting policies around the usage and storage of data.

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