ARTIFICIAL INTELLIGENCE: ITS
PROMISE AND PERILS

Outline:

1. Introduction

   Thesis Statement: Although Artificial intelligence promises huge dividends to the human civilization at large, it is not without its perils which can be checked by proactive curative measures envisaging its controlled and safe development before it spirals out of control.

2. A bird's eye-view on different types of artificial intelligence

3. Technology of artificial intelligence is promising of a prosperous human civilization

   (a) Strides in agri-productivity
   (b) A catalyst of globalization
   (c) Predicting natural calamities
   (d) Weather forecast becoming more reliable
   (e) Revolution in manufacturing industry
   (f) Age of space exploration ushered in

4. However, artificial intelligence can imperil the same civilization unless it limits are defined:

   (a) Spread of fake news and propaganda
   (b) Loss of employment avenues

(c) Potential of digital dictatorship

(d) Huge cost of error and bugs

(e) Cyber warfare unleashed

(f) Ominous probability of human extinction

5. Ways forward to rein in hazards of artificial intelligence for the human civilization

(a) AI and humans on the same page

(b) Revisiting Geneva Convention and rethinking role of robots on battlefield

(c) A global framework to check development of artificial intelligence

(d) Penalizing fake news and issuing watermarks

6. Conclusion

"Machine learning is the last invention that humanity will ever need to make." (Nick Bostrom) While this popular maxim shows how artificial intelligence is a unique invention, it is also a subtle warning of an impending doom. As of now, artificial intelligence has proved a promise of prosperous progeny of Adam. It has prolonged survival of human species by revolutionizing food industry. Beyond this jugglery of genetics, it has unified the world into a unit global village viz groundbreaking communication technology, improved transportation services and big data management — all made possible by artificial

intelligence. Moreover, it has been crucial in identifying hotspots of natural calamities and predicting future weather conditions. However, for flip side of the artificial intelligence coin, Stephen Hawking warns, "The development of full artificial intelligence could spell the end of human race." whereas extinction of human race maybe a delayed scenario, other implications of artificial intelligence along the way are equally hair-raising. Spread of fake news and propaganda is just the tip of the Ice-berg. Its further potential perils encompass loss of employment opportunities, danger of digital dictatorship, cost of error and malfunction and threat of cyber warfare. The only "silver lining" here is that things have not started to go south with vengeance yet. Therefore, despite artificial intelligence promising huge dividends to the human civilization at large, it is not without its perils which can be checked by proactive curative measures envisaging its safe and controlled development.

   The term artificial intelligence is a monolith denoting its various types collectively. Its every stage has benefits to offer but not all are a source of concern. For example, reactive machines are artificial intelligence based but they are highly specialized. These are designed for specific purposes only and are thus inherently restricted. Second type is limited memory type which feeds on data to become smarter. Also known as deep learning it improves image recognition and other types of reinforced learning. Self-driving cars are a good example of this type. These two are

the extent types and are in use today. Other two types are Theory of mind and self-awareness types. It is this category that presents particularly frightening prospects of human race. If acquired, there will be no turning-back. Thus, artificial intelligence is a monolith term with layered types inside it.

Of numerous benefits artificial intelligence offers to humans, strides in agri-productivity has been the most critical one. Food security is human security, and ensuring steady food supply chain is prolonging survival of human species. For instance, AI-powered precision agriculture technologies, such as drones and sensors, helps farmers optimize irrigation, fertilization and pest control. According to data from World Economic Forum, "AI can increase crop yields by up to 70% by 2050 through precision agriculture." Besides, AI-driven image recognition models can monitor crop health, identify diseases and even predict yield potential. In short, AI is promising in transforming agriculture by data-driven insights and automation.

AI is a significant catalyst of globalization. It helps in facilitating communication, trade and cross-border collaboration through effective data management. According to International Telecommunication ~~Union~~ Union (ITU), "AI-powered translation tools break down barriers of language, enabling people worldwide to communicate more effectively." Moreover, it helps in streamlining trade red-tapeism. For instance platforms such as Alibaba's Trade Trust Network enhance

cross-border trade efficiency. Now a buzzword, globalization would not have been so mammoth and swift had it not been for artificial intelligence as its prime driver. In a nutshell, artificial intelligence has contracted the global by ~~growing~~ expanding horizon of technological transformation.

Moreover, artificial intelligence is handy in predicting hotspots of natural calamities. While those disasters cannot be averted always, AI ~~can~~ helps in risk management and damage mitigation. For instance, wildfires have seen a surge in recent years. But California, a state of the United States, came up with a solution. It has developed ALERT California system which is an AI based algorithm used to analyze live feeds from cameras strategically placed in fire-prone areas. It has been a success story in terms of a hedge against wildfires. In short, artificial intelligence is a reliable partner in risk management in events of natural calamities.

Furthermore, artificial intelligence ensures weather forecast as a reliable input in averting vulnerability of life and property to hazards of extreme weather patterns. It is particularly helpful in view of unpredictability of weather conditions thanks largely to climate change. If fed with historical data of eventful weather patterns and reinforced with image analyzers, reinforcement learning of AI can do wonders. IBM notes, "AI can generate high-resolution weather forecasts up

to 48 hours in advance." It offers sufficient time for evacuations and other risk management efforts. Hence, role of artificial intelligence is a tell-tell that it promises prosperous human civilization.

Additionally, artificial intelligence plays a transformative role in manufacturing industry. Drastically narrowing margin of human error, it improves efficiency, innovation and quality. Manufacturing is a hallmark of capitalist system and trade across countries. In turn, ability of AI to improve this sector shows how accomplished a tool it is. According to a report by Accenture, "AI has the potential to increase labor productivity by up to 40% in manufacturing." Role of AI cannot be emphasized more than that it is a precursor of coming industrial revolution. Thus, artificial intelligence plays a pivotal role in improving output of the manufacturing sector.

space
Lastly, age of exploration has been ushered in on the heels of artificial intelligence. Lately, besides commercial interests space exploration has been a matter of national prestige and military prowess. In this regard, AI powered statecraft and rovers are able to navigate uninhabitable and hostile territories of space. Also, it helps in analyzing complex and massive volumes of data. The Mars rovers, such as the recent one, Perseverance, use AI for terrain navigation and decision making. In short, artificial intelligence plays an undeniable and massive role in space exploration missions.

∅ However, on the other hand, perils and pitfalls of AI are equally hair-raising, as its promises are mesmerizing. How those downsides unfold is contingent on frameworks concerning pace and direction of development of artificial intelligence. 35

Artificial intelligence can be very troublesome when it comes to a spreading disinformation and propaganda. Researchers already know that fake news spreads quicker than real news. Its intensity has aggrandized to the brink of "reality vertigo" phenomenon. In this phenomenon, computers can generate such convincing content that it becomes very difficult to distinguish fake and real. One example of this intricacy is creation of "deepfakes" imitating reality. What is more, AI-powered bots can strategically expose to users those faked news to sway public opinion in what is called a propaganda. According to the Atlantic, in 2019, Russian hackers used such bots and fake content in swaying elections in favour of the former US President Donald Trump. In other words, artificial intelligence can be invisome in spreading fake news to effect change in public opinion. 133

Secondly, the onslaught of artificial intelligence has created fears of mass unemployment. These fears are in no way similar to those of Luddites as the latter's proved misplaced. Unlike automation common to both, autonomy of AI-powered devices is the actual challenge in replacing human workforce with robots. According to an estimation by McKinsey Global Institute, more than 800 million jobs around the world are about to be out of human control by 2030. In short,

loss of employment avenues is one perilous hazard of artificial intelligence.

Thirdly, artificial intelligence can prove to be an Aladdin's genie, dictator being Aladdin. These concerns are born of the fears of machine learning type of AI tightening noose around democratic values of freedom of expression and mobility. In states already infected by authoritarian regimes, artificial learning can help dictator to double down on dissent. It has potential to become a "thought police" used by Big Brother in the novel, 1984 written by George Orwell. In essence, artificial intelligence can be a pet of dictators and help them solidify their rule by tightening surveillance.

Fourthly, artificial intelligence can turn perilous in cases of glitches and errors. AI does not always work individually; rather, it is a network of various databases and data analyzers. Fault in one, local point can spread like wildfire. This problem is amplified by the dilemma of "black box" problem. This quagmire arises when humans cannot differentiate between effective tactics of AI or its faulty operations. Thus, like every machine, artificial intelligence is prone to errors, which can cost dearly.

Fifthly, artificial intelligence has potential to unleash a unique malaise of cyber warfare. Through ages of technological development, human ingenuity

has evolved in tandem with his aggressiveness. From sticks and stones through gun powder to nukes, a huge scale of war machines has portrayed man as a choleric beast. Yet none of the above devastating technology presented the huge challenge to peaceful living as artificial intelligence has. It is unique in its capability of shifting control from humans to machines as well as inventing ever lethal tools of bloodshed to properly wreak havoc. One indicator of machine controlled warfare is the recent simulation of dogfight in which AI-controlled F-16 jet bested a veteran human pilot. If such robots continue to overrun physical and cyber battlegrounds, man will not only suffer a moral problem but also a legal one as the Geneva Convention has no responsibility fixing provisions for robotic wars. Thus, artificial intelligence is as unique a danger to peace as it is hair-raising.

171

Lastly, but as formidably, AI threatens to sweep human species off the face of earth. The onset of this existential challenge stems from artificial intelligence acquiring human-level intelligence or more. Understandably, if it begins thinking by and of itself as an entity apart, and at mercy

of another species, survival instinct of will lead the former to wipe out its challenger. Such fears are more pragmatic than pessimistic evident by recent pause enforced on AI's further development. To this end, in *The Precipice*, a book by Oxford existential risk researcher, Toby Ord, the likeliness of AI leading to human extinction exceeds that of climate change, pandemics, asteroid strikes, supervolcanoes, and nuclear war combined. Therefore, AI is a peculiar and existential challenge to human survival and a day might come to pass when the boss is bossed around.

138

Nonetheless, there is wisdom in the time-worn a proverb that assures of a silver lining even to the darkest of clouds. With our globally coordinated efforts and timely measures that are more humanistic than commercial, artificial intelligence can be harnessed to make way for prosperity. 43

As the development of artificial intelligence has just taken off, it is remedial to ensure goal of artificial intelligence is aligned with that of human. On turn, it is also essential to orient human's end goals with peaceful purposes by addressing legislative

chinks in the Geneva Convention. The Covenant must be revised and revisted so that it provides code of conduct in case of robotic warfare. As for alignment of AI to be on same page with humans, Isaac Asimov's "Three Laws of Robotics" should be incorporated not only in AI's basic development but also in relevant legislations. Thus, humans can and AI can be partners in prosperity by safe development of AI as well as by addressing legal quagmires arising from changing Landscape.

Additionally, it is incumbent to check development of artificial intelligence and design measures to put lid on fake news. The recent letter signed by well-known AI scientists and entrepreneurs such as Elon Musk to pause AI in its tracks is a positive step. It will allow humans to come to terms with AI and proceed cautiously with it. The erstwhile AI race has fortunately been repressed. Furthermore, it is time to contain wildfire of fake news caused by AI. It can be achieved by issuing watermarks for every model or ingenuity born of artificial intelligence. Thus, Hence, global cooperation and issuance of watermarks promise AI-led prosperity.

In conclusion, artificial intelligence can be a companion in a ~~of~~ man's journey to progress and peak of human civilization if the hurdles along the way are disposed of. On its own, AI has both evil and angel sides. It is man's call to decide which side he is on; whether he chooses to spread fake news, create ~~crisis~~ humanitarian crises and wield it for war-efforts, or otherwise. At the end of the day, ~~#~~ the choice rests with humans: promising or perilous. But beyond self-awareness of artificial intelligence, man will be to AI what ~~is~~ monkeys are to humans: a step to its birth.

104