Artificial Intelligence: Its Promise & Perils

OUTLINE

1) Introduction:

Thesis: Artificial Intelligence holds immense promise to transform the lives of mankind towards a better future. However, along with numerous benefits, it poses a significant threat to the security and well-being of people, which require multifaceted approach to minimise the potential perils and maximise the benefits.

2) The Promises and Perils of AI in Contemporary World

3) Artificial Intelligence and Its Promises (5)

a) Revolutionising healthcare by medical breakthroughs.
b) Empowering education by ensuring better learning.
c) Improving urban living in Smart Cities.
d) Creating more jobs and growing economy.
e) Introducing speed and accuracy in tasks.

4) The Risks and Dangers Associated with Artificial Intelligence (5)

a) Compromised security due to Cyber-crimes.
b) Replacement of human workforce and unemployment risks.
c) Dangerous implications of AI in warfare.
d) Environmental degradation by AI maintenance.
e) Identity theft using Artificial Intelligence.

5) Factors Contributing To The Perils of AI (4)

a) Rapid advancement of AI and lack of regulations.

b) Unpredictability of AI robots

c) lack of accountability due to autonomous decision making

d) AI algorithm bias.

6) Shaping A Responsible AI future: The Way forward (3)

a) Introducing comprehensive regulations on rapid advancement of AI.

b) Implementing security measures to prevent AI-related cyber crimes.

c) Spreading awareness about the threats of AI.

7) Conclusion

TOPIC: # Artificial Intelligence: ITS PROMISE & PERILS

"Machine Intelligence is the last invention that humanity will ever need to make" - Nick Bostrom. This quote elucidates the importance and grandeur of the Artificial Intelligence in transforming todays world to an extent that no other invention might ever come close to it, let alone outperform it for good. In the contemporary setting AI has not only helped in the domestic affairs but also the industrial applications. From medical breakthroughs to educational facilities, AI has facilitated almost every field. It has resulted in job creation that boosts the economy, as well as the public trust in it that it would do so. Moreover, it ensures speed but also accuracy in performing the tasks. The modern use of AI in smart cities would ensure improvement in urban living standards. These tremendous and outstanding benefits also bring along several misfortunes and evils that thwart the societal progress and endanger social wellbeing. These perils include cybercrimes and other dangerous implications of AI in warefare. The adoption of AI in industrial and professional setting would result in replacement of humans by robots that would widen the economic imbalance. Not only this, the maintenance of large AI softwares require elements that result in environmental degradation to further add to the climate crisis. Additionally, identity theft remains one of the biggest drawback of AI in modern world. These hazards of AI are worsened by certain restrictions and limitations that artificial Intelligence has, such as unpredictability, algorithm bias, and lack of accountability followed by rapid advancement.

This is the reason why shaping a responsible future is equally significant and crucial by introducing relevant regulations and bylaws, implementing security measures, and spreading awareness about the threats of using Artificial Intelligence irresponsibly. Precisely, the emergence of AI holds immense promise to transform the lives of mankind towards a better future. However, along with numerous benefits, it poses a significant threat to the security and wellbeing of people, which require multifaceted approach to minimize the potential perils and maximise the benefits.

2 - **The promises and perils of AI in contemporary world:**

The interplay of the perils and promises of AI is complex yet nuanced. There is a fineline between the use of technology and the 'right' use of technology, which is often blurred by irresponsibility of the mankind. With the ease and accessibility provided by AI, there are certain boundaries that should not be crossed. In the words of Elon Musk, the founder of Space X and Tesla, "AI is far more dangerous than nukes." This underscores the challenges and issues that the irresponsible use of Artificial Intelligence might bring which would be far worse than nuclear weapons, which are the deadliest invention of human beings! Therefore, despite the countless blessing offered to mankind in form of AI, one should always be apprehensive of the hazards of this invention, the responsibility of which falls on the shoulders of 5.3 billion internet users worldwide as well as the creators and inventors of this technology (Statistica, October, 2023).

3- Artificial Intelligence and Its Promises :

Artificial Intelligence offer countless blessings to the mankind in form of:

a) <u>Revolutionising Healthcare</u> has been one of the biggest contribution of the artificial intelligence in serving the humanity. The milestone achievement of technology in the field of medicine is the medical breakthroughs. These breakthroughs ensure the maximum health possible of the human beings by eliminating the disease or the possibility of the disease prior to the diagnosis by using complex algorithms. <u>One such example of this is 'Sybil'. Sybil is an AI robot that is invented by the researchers of the Massachusets Institute of Technology (MIT), that uses a single low-dose computed tomography (LDCT), to accurately predict the future chances of an individual in getting lung cancer.</u> This will decrease the risk of the patients in getting sick by lung cancer, by taking preventive measures. This is enough to prove the effectiveness of Artificial Intelligence in the field of medicine by offering revolutionary breakthroughs.

b) <u>Empowering Education</u> by ensuring fast and better learning has been another contribution of AI in the favor of mankind. Artificial Intelligence offers valuable insights in the field of education to remove redundant information and introduce preciseness and accuracy of the data. This results in students wasting less time on futile, inaccurate, and irrelevant data, and thus increases their productivity and learning. for instance, the induction of large

Language Models (LLMs) such as Chat GPT, Bard, and others, have changed the way traditional ways of learning among students by ensuring speedy, comprehensive, and correct information on their fingertips at every hour of the day. This ensures productive and efficient output for the students and the teachers. Hence, it adds to the past that the advent of AI and its role in evolving the educational practices is immense.

c) **Improving Urban living** is another modern application of the artificial intelligence in revolutionizing the future of mankind by providing utmost comfort and lifestyle. The use of AI around the globe in Smart Cities is at early levels at the moment. However, by the steady growth of AI in a little time, the era is not far when people would be witnessing the prime of this invention. To exemplify, AI has been developed to be used in Traffic-control Systems, Energy Management frameworks, waste-disposal projects, and environmental sustainability analytics among others. It will completely alter the current inefficient and harmful practices towards a prosperous and healthy mechanism for urban living, which puts another badge to the shoulder of Artificial Intelligence.

d) **Creating more jobs and improving economy** are other major achievements of the Artificial Intelligence. The induction of AI in the professional world opens numerous doors of

opportunities and success for the people, which makes them embrace this invention with open arms. According to the survey data collected by Access Now, a digital rights advocacy organisation, 75% of the people in China, 73% in India, and 72% in Mexico, who are employees are positive about the impact of Artificial Intelligence on their careers with respect to opportunity creation and introduction of automation in their jobs. The data collected had 15000 participants who showed optimism about AI in the job market and the professional setting. The more the creation of jobs, the greater would be impact of it on the global economy. As per the Pricewaterhouse Coopers (PwC), a leading professional service firm, AI will add a whopping $15.7 trillion to the world GDP by 2030. This advocates for the fact that AI will not only introduce jobs in the market but will also enhance the global economy to a great extent.

e) **Introducing Speed and Accuracy in Tasks** is another feather to the crown of Artificial Intelligence. This insinuates that the progress of AI is not necessarily restricted to intangible aspects but also concrete aspects. It weighs upon the strategic and intuitive decision making abilities of AI, that too in a very little timeframe, which is of remarkable benefit to mankind in current and future settings. For instance, the DeepMind Challenge of 2016, specifically AlphaGo versus Lee Sedol, one of the world's top Go player. Go is a complex game that requires rapid evaluation of potential moves. In this match historic match, AlphaGo, the AI robot, won the game by analysing complex moves very quickly with great accuracy. This

event underscores the potential of AI with regards to accuracy and speed that surpassed even the human abilities. Therefore, it concludes the fact that the past and correct responses of AI is a benefit to humanbeings that could be reaped by relevant application of AI in countless fields.

4. The Risks and Dangers Associated with AI:

When on one hand, AI has provided numerous boons and promises to the human race, on the other hand, it has also encapsulated myraids of drawbacks, which include:

a) **Compromised Security** is one of the biggest and most serious peril of the Artificial Intelligence. This specific hasard is due to the presence of ill-willed people that include but is not limited to thieps, abusers, cons, and bullies on the internet that acts as a sancluary to them because of unaccountability and anonymity it offers. This has played an important role in turning Cyber-crime abhorent in nature, that has taken countless lives and shattered the peace of many. This crime is not only performed explicitly by individuals will false intentions but also big organisations with vast majority of potential victims that are their customers. In 2018, Cambridge Analytica Scandal, involered biggest and the most trusted social media platform, Facebook, now owned by the parent company, Metas that sold the personal information of 87 million of its users to Cambridge Analytica, a political consultation firm, to be used by AI for political campaigning, without their consent or awareness. This example is big and strong enough to elucidate the fact that compromised

security due to cyber crimes is one of the biggest and most heinous drawback of the Artificial Intelligence.

b) **Replacement of Human Workforce** is yet another risk of the Artificial Intelligence that would result in a higher unemployment ratio globally. This particular peril is perceived due to the concurrent introduction of automation and machine learning in today's job market because businesses are all on the bandwagon to reduce their costs and maximise their profits. This raises concerns about the potential and gradual impact of AI in the contributors of unemployment. According to the Bureau of labor Statistics, there had been 5 million loss of jobs in the United States, due to machine learning and its induction in the job market of USA. The historical analysis shows the impact of such technology on the career opportunities of people. This replacement is not limited to common people for smaller positions but also for bigger positions. For example, recently on November 9th, 2023, a Columbian company, Dictador, appointed the first ever robot CEO, named 'Mika'. This weighs upon the fact that replacement of humans from by AI robots is not impossible and is the most relevant risk in todays world that might add to the existing unemployment rates.

c) **Dangerous Implication of AI in warfare** is currently the most abominable and the most relevant peril of the Artificial Intelligence. It not only creates false sympathies and false hatred in the minds of receivers but also blurs the line between reality

and illusion. AI has been used to spread propaganda by warmongers to gain support under deceptive pretenses. This is done by creating and disseminating AI-generated fake images and videos to defame the opponent and discredit them while playing the victim and shedding crocodile tears. Currently, the AI has been used for the first time in war by Israel to ellicit sympathies by showing false and fake content through the western media to the western population against their underpreviliged and besieged victims, the Palestinians, who are being killed mercilessly in their own homes. This is one of the worst side-effect of the use of AI in warepare, which further adds to its perils.

d) **Environmental Degradation by AI maintenance** is a danger that is one of the drawbacks of the Artificial Intelligence in contemporary world. With the climate change turning into a climate crisis, and the enablers playing the role of adversiers, the efforts of the world in reducing the impact of this phenomenon will have been thwarted by the heavy maintenance of large AI softwares that emit tons of carbondioxide into the atmosphere, worsening global warming issue. According to the MIT ~~Technology~~ Review, Chat-GPT-2 & other AI models can produce upto 626,000 pounds of Carbon Dioxide when prepared for just one round (MIT Technology Review, 2019). As per the recent estimates, the ~~daily~~ maintenance of Chat-GPT-3 leaves a carbon footprint of 8.4 tons per year, while Chat-GPT-4 emits even more carbon Dioxide into the environ-

ment. This weighs upon the fact that AI is a hazard that would endanger the environment ^more with its development over time, which makes it a misfortune for humanbeings.

e) <u>Identity Theft</u>, at last, is a peril of Artificial Intelligence that is more contemporary in nature, owing to the rapid and perpetual development of AI softwares. It is also one of the most vile flaw of the technology of AI, due to providing grounds for cons and offenders to impersonate someone else or even worse, circulate fake and indecent graphic content without being in knowledge of the potential victim's. This results in their reputations being sabotaged which makes them prone to selfharm on one hand, or deprive them of their hard earned assets and wealth on the other. Eitherway, it makes AI take away the peace of the victim by aiding the identity theft. <u>In 2022, fake videos of a politician created by Deepfake AI technology, made him lose his presiden-Tial candidacy and his reputation.</u> This implies that AI is a peril that leads to identity theft.

5. Factors Contributing to the Perils of AI:

After navigating through numerous perils of the Artificial Intelligence the question about the role played by possible contributors becomes imminent. Therefore, delving into the factors contributing to the perils of AI, we find the following elements:

a) <u>Lack of Regulation</u> despite rapid advancement of AI is one of

the most important factor that results in making AI prone to risks and hazards due to this neverending and rapid race on 'what can be done', while ignoring 'what should be done' or 'if it should be done'. The more the advancements in AI, the more there is the need of regulations, but in spite of being the most emerging technology in the shortest time frame, AI fails to have the required rules and bylaws that would help contain its negative consequences that loom as a pending danger over the heads of mankind. Sam Altman, the CEO of Open AI and the creator of Chat-GPT, says that he "fears" that "if this technology goes wrong, it can go quite wrong". This, therefore, requires relevant protocols and rules and not having pre-designed bylaws contributes to the perils of AI the most.

b) **Unpredictability of AI robots** is another factor that makes the Artificial Intelligence harmful. The AI robots are machines that are programmed by mortal men that can make human errors. These errors can affect the behaviour of AI robots, which can be of detrimental affect to human survival in future. The unpredictibility, therefore, is inherent in the systems of AI robots which to some extent, which can alter the pre-planned outcome of the inventors or change it altogether. For example, 'Tay' was an AI robot of Microsoft that when interacted with the content generated by humans on Twitter now X, turned into a hateful and racist bot. This was really unpredictable as it went completely against the assumptions of its creators. It supports the fact

that the unpredictability of AI robots add to the dangers of AI.

c) <u>Lack of Accountability due to autonomous decision making</u> is a contributor to the risks of Artificial Intelligence. This is due to the decision-making power given to AI by the inventors which evades them from the responsibility of possible accidents and puts the blame on the human-made machines. This leads to the dilemma of who would and should be held responsible for the malfunctioning of AI. <u>In 2016, Tesla Model-S, an autonomous driving vehicle, crashed into the curb, when put on auto pilot mode and killed the driver in Florida, USA.</u> The accident was blamed on the distraction of the driver and the company was acquited and deemed 'innocent' by law. Therefore, this lack of accountability when it comes to AI makes it prone to add to the perils of the Artificial Intelligence.

d) <u>Algorithm Bias in AI</u> is yet another contributor that adds to the hazards of Artificial Intelligence. The algorithms when coded into the AI softwares, sometimes, are not efficient on equitable basis for all the population alike. This results in biases leading to the marginalisation by AI in and its equal benefits to the mankind based on certain factors such as race, age, gender, et cetera. <u>According to Massachussets Institute of Technology research, AI-powered facial-recognition softwares showed errors in recognition of 34.7% black women as compared to only 0.8% white women.</u> Moreover, online job platforms using AI showed bias against old workers who applied for jobs by resulting in 50% less call back rates, (MIT review, 2018). This

raises eyebrows about the potential perils of AI with respect to the algorithmic bias and makes it one of the contributors of the Artificial Intelligence ~~perils and~~ hazards.

6- Shaping a Responsible AI Future: The Way Forward

The potential perils of the Artificial Intelligence and the factors contributing to these perils demand for multifaceted and strategic resolutions such as:

a) **Introducing comprehensive regulations on rapid advancement of AI** is the most required measure of the times to limit the negative consequences of AI. These rules and regulations will not only ensure that only the best and most accurate technologies survive the competition to give what's best for humanity rather than jumping on the bandwagon to just bring more advancement regardless of the consequences. This will be a step towards the greater good of the inhabitors of this planet. One such step in this regard is 'Bletchley Declaration' signed by 28 countries and the European Union on 1st November, 2023, to combat the unchecked development of AI. These types of initiatives to introduce comprehensive regulations on limiting the upgradations of Artificial Intelligence would ensure peaceful tomorrow.

b) **Implementing security measures to prevent AI related cybercrimes** is also a demand of the evolving situation with respect to AI and its increasing risks. These security measures will help in eliminating the undesired outcomes by irresponsible and vile use of this technology.

It would help ensure a safe environment in the context of the advancement of technology. For instance, HIPAA regulation is used by hospitals to save the patients' data against breaches while providing security and privacy to the stakeholders. Induction of such security measures in the AI setting will bring about the change needed to mitigate the safety concerns of this technology.

c) Spreading awareness about the threats of AI is also required to address the adverse effects of this tech by informing the population of the consequences of irresponsibility in the use of AI technology. It would make them be more prudent in their utilization and dependence of this tech. One such example is of Annual Data Privacy Day initiated by National Security Alliance that occurs everyday on February 28th. It promotes best practices of data protection and privacy against potential infringements. These sorts of measures are required to minimise the threats of AI by promoting it to the shape a better future for the global populace.

7- Conclusion:

To conclude, it can be elucidated that with numerous promises, AI also brings several perils which require responsible use of such technology. While providing the privileges of better healthcare and education, improved lifestyle, enhanced economy, and ease in work, AI also leads to security concerns, unemployment risks, and environmental degradation due to lack of regulations, accountability, predictability, and impartiality. Therefore, it should be used with prudence along with measures to combat rapid advancement, cybercrime, and unawareness which will help ensure better

Date:

and more efficient use of AI because as the saying goes,
"every blessing carries its burdens", therefore there should be a
balance between both to welcome a prosperous future!.

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