THE "NEW -FUTURE WORLD"DRIVING FORCE

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Intoduction

[1]AI is going to be the future driving energy which is going to control the whole world may be harmful or harmless, but it all depends on our hands and how we use it.

What is AI

[2] It is the branch of computer science that helps in building smart engines into machines. [3] To acknowledge human necessities and solve their problems. [4] These do not perform human biological functions which is the necessity for these smart machines.

History of AI

[5] Warren McCulloch and Walter Pits in 1943 where the first people to give the idea on creating artificial neurons. [6] The term Artificial Intelligence was coined by John McCarthy at the Dartmouth Conference which happened in the year 1956. [7] Programming languages like Fortran, Lisp, Cobol were invented so the enthusiasm in AI started increasing among the scientists. [8] In 1966 Joseph Weizenbaum programmed the first chat box "Eliza". [9] Japan created the first humanoid robot named "Wabot-1". [10] From 1974-1980 many countries stopped funding the AI.

Growth of AI

[11] In the year 1980 "Expert system" which was programmed for decision making ability. [12] In 1997 Deep Blue Company created by IBM defeated the world chess champion Gary Kasparov and earns the name of the first computer to defeat human. [13] "Roomba" an AI vacuum cleaner entered the household. [14] Companies like Facebook, Twitter started using AI for developing social media platforms. [15] Watson created by IBM had won Jeopardy, an American quiz show which proved that it could understand human language and to think and solve riddles. [16] In the year 2012 Google had developed "Google Now" to show the results according to the owner or user. [17] In the year chatbot "Eugene Goostman" had won a Turing test (a test to check whether AI can think like humans and act efficiently ornot). [18] "The Project Debater designed by IBM" debated extremely well with two expert debaters and won. [19] Now the whole world is practically running because of AI from performing the household chores, paying money, and travelling somewhere.

AI in Healthcare Appliances

[20] AI has been playing a major role in medical field and has made the work for doctors, lab technician, other staffs, and the patient's life easier and in easy diagnosis. [21] The patients records can be saved easily in the hospital's data records instead of maintaining a handwritten file which may get lost, or data may get damaged at any time. [22]AI delivers the result of the patient online itself most of the time. [23] For example, when we test for covid our result used to appear in the web portal. [24] When blood sample is collected in olden days people used to observe it in the microscope and sometimes negligence can cause a great error but nowadays when the blood samples are put in certain machines it shows the required result and sometimes DNA report can also be

generated using the machine. [25] Many technologies have been developed in which surgeries are being performed by the humanoid robots, it shows photos and images of patient during the operation for the doctor to see and operate accordingly(Laser operation). [26] When MRI, ultrasounds ,CT ,X-Ray and such scans are done the images and their reports are generated immediately so that diagnosis can be started quickly without further delay.[27]AI has also improved the health and hygiene of doctors and patients as sometimes machines perform the required diagnosis for the patient and doctors need not touch the patient unnecessarily to avoid the infection spread from doctors to patient or from doctor to patient(for example dialysis).[28] Mistakes bound to happen in AI but can be rectified or reduced and should be used effectively.[29]Monitors placed near the patients displays and monitor their pulse, heart rate ,oxygen level and so on.

AI in Manufacturing and Industries

[30] AI is the key which helps in opening and expanding the manufacturing industries. [31] AI equipped machines have proved to be working efficiently with minimum or no mistakes. [32] Forexample, in cutting the edges, designing with perfection as inputted but humans tend to make mistakes in cutting and in designing the required material. [33] Machines do not lose concentration and do not need a break like humans until the machine is in proper condition and there is continuous power supply. [34] It is said to reduce the deaths or injuries when designing without proper safety measures. [35] Forexample, in blast furnace if a human does the work without proper safety equipment itcan poses a great threat to his life but if a machine does it at least a human life can be saved. [36] But sometimes if these heavy machines get damaged either the person who is operating it may either get heavy injury due to short circuit or the machine might fall on the person and the person might get killed or a mass number of people can get killed due to this. [37] The machines may cost high, requires high maintenance, consumes a lot of energy due to which the natural energy resources like coal are getting depleted at a faster rate. [38] This may cut the labour cost and the expenses which should be satisfied by the company (like health expenses and so on). [39] Machines do not demand hike in money or do not protest for any reason. [40] Machines have improved the hygiene in food industries where machines do the packing, assembling, picking of raw items and human hand need not touch the food items and to check the quality and amount of chemicals added and if the food is harmful or not. [41] The machines in various industries have helped in picking and checking of quality of raw materials, cleaning them which humans cannot do creating them into different items in a short period of time than humans who take a long time and work will also not be hundred percent efficient. [42] Machines have also been developed to check the quality of the product.

AI in Security and Services

[43]AI has shaped the security services to increase the security of the people around with new technology. [44] Security surveillance cameras have been installed almost everywhere which captures images and videos and stores it in the computer systems for a long time. [45] Different types of cameras are available which can be fitted anywhere to see the criminal activities. [46] Fingerprint and face recognition systems have been equipped in the phones, watches, computer systems for their unique identification (as all humans have different thumb impression and iris). [47] Passwords, pin, and pattern have equipped in the phones (though less safe than face and fingerprint recognition) to keep our phones, computer systems, bankdetails, social platform details

and extra safe and others do not access the information. [48] Computer systems have antivirus softwares which help in protecting against the virus, hackers, stalkers, malicious software who plan to damage our files, steal confidential details and so on from our systems. [49] Many softwares have been developed to track our phones, for women safety, theft safetyand OTP if we want to login into some websites which contain confidentialinformation. [50] Biometric and personal information of theircitizens have been recorded in the systems by the government of many countries as paper records can get erased and cannot be referred easily and check on illegal migration or any terrorist entry. [51] Drones have been employed to check illegal occupation or entry. [52]AI equipped bombing machines like bomb dropper, targeting the enemy and so on. [53] The future of security depends on AI. [54] A terrorist or a wrongdoer might try to hack our information to steal money and our credential information or steal national security and military information to attack our country so it depends on us on how we store our information carefully and instal antivirus softwares and to stop sharing our personal information to others .

AI in Education

[55] AI has a great importance in the field of education. [56] It helps in visualisation and gives live experience of concepts through animation and many tools which cannot be experienced when drawn on black board. [57] Helps in distance learning programs for people who cannot attend live classes.[58] Forexample,Vedantu, Byjus, Udemy and so on which give coaching to students so that they can sit at home, andthis saves time that takes for travelling or can attend during theirfree time. [59]AI has also helped in performing calculations, giving correct and quick values for some laboratory experiments which are difficult for humans to calculate and has saved a lot of time. [60] Many machines have been installed in schools to teach students computer programming and get hands on fresh experience before practically applying it. [61] Classes through AI can increase laziness and lacks liveliness.[62] AI has played a major role during the covid times to connect the student and teachers and continue their classes even though they couldn't physically. [63] Students will free to cheat as there is no one administer them physically. [64] Students need physical experience of handing things and would suffer if they get to do inphysically as physical knowledge is needed than AI knowledge. [65] In near future AI will replace the traditional notebook system with digital notebooks.

Advantages of AI

[66] AI is used in various fields for problem solving and decision making with speed and efficiency.[67] Doesn't perform human biological functions so can efficiently work without break and doesn't deteriorate due to health issues. [68] Can be used in places where humans cannot reach because their working conditions doesn't get disturbed by climatic changes and do not need any food or other living essentials to survive. [69] Is widely used in internet search engines. [70] Can perform tasks which cannot be done by humans for example NASA had launched a car size AI machine from Cape Canaveral on mars in the year 2011. [71] AI has played a major role during the covid 19 for checking the availability of bed, vaccine, information on number of people infected by covid near our area or in our country and getting information whether we have been infected by the virus or not. [72] It has helped the students and teachers across the world to conduct and attend classes through AI (for example google meet and so on) when face to face classes weren't happening. [73] In offline classes also students are able to visualize and understand a concept

through animation which cannot be explained by drawing on the black board. [74] Many software applications have been developed to perform lab activities instead of going to lab physically. [75] AI has also helped in the field of health and medicine where AI inputted machines are performing operations and helps in creating image and video during laparoscopic operations and create images and analysing a report during scans and MRI's.[]Doesn't perform any human errors or does minimal errors. [76] Many homes these days are equipped with AI machines that automatically performs the household chores like switching on the lights and so on with minimal usage of energy. [77] Many people have watches that calculate their daily workout routine, set alarms, can detect calls and messages, that is having all the information in their fingertips instead of taking their phones or laptops and checking information. [78] AI is used in food manufacturing industries to check the quality of food and prepare food without human contact with safety measures. [79] AI is used in automation industries to load and unload heavy items ,check the quality and ensures human safety as back in olden days many people had been injured or lost their lives by performing tasks with heavy items. [80] AI is used in war field to detect the safety measures during war, identify illegal entry of people from foreign countries, occupying the country's area by the enemy, in attacking the enemy during the war.[81]AI is used in security systems where images and videos are being captured by CCTV cameras and displaying in the computer screen and the cameras are available in many forms so that can be hidden anywhere and capture images and videos. [82] AI is used in wildlife areas to check on poaching of animals and capture their day to day activities and showcase them to the normal people for them to understand the necessities and living conditions of wildlife animals. [83] AI has helped in connecting people from far through video calls and social media sites.[84]The owners of manufacturing industries need not invest much money on labourers for their medical expenses and satisfying their needs like building schools and collages for their children, hospitals, houses and so on. [85] Little amount of electricity, maintenance for a regular period and one time investment is enough. [86] Machines cannot be bribed to do criminal activities against the owner. [87] Nowadays people can call an auto or taxi sitting at home (for example Uber, Ola) and transfer money to the driver. [88] We can transfer money online or scan and pay or pay through credit card instead of giving cash or travelling to give the money which is a risky task as money may be stolen or something dangerous may happen to the owner. [89] AI driven vehicles using electricity or solar light is under research to reduce the greenhouseeffect. [90] Maps on phones have made people lives easier as they can easily drive to the place they do not know and do not get lost most of the times. [91] It has helped students in seeing their results of their exams sitting in the home instead of going to the respective centre and checkingthe result.

Disadvantages of AI

[92] Fears have been there that AI can replace humans in all fields and unemployment will increase. [93] Many people who haven't been provided with good education depend in these jobs like working as a maid, getting labour jobs in factories and so on. [94] For example people get job as maid in the household but the owners stop them because they have machines to do the work more efficiently at a cheaper cost due to which the maids family might be starving. [95] Many people have lost jobs in the manufacturing sector as machines do their work efficiently and without any tiredness and cuts the labour cost for the owner. [96] Even people with good education are also on verge of losing job as AI can replace them also. [97] During medical operations what if the machine suddenly stop working at first it puts the patient's life at risk and this brings a disgrace and legal

issues to both the doctor and hospital. [98] In automation industries the whole manufacturing will stop if machines stop working and this create loss to the owner and if machines are not maintained properly the system may collapse and lead to many losses of life. [99] Lazinesswillstart increasing among humans as they have the thought that machines are there to perform the operations. [100] If machines stop working, this increases the workload [101] Makes decision based on facts inputted and doesn't think differently or logically. [102] If controlled by wrong people can create a huge destruction for humans. [103] AI can display our personal details to some hacker or a wrong person if not secured properly. [104] Using our personal information many people can steal money or valuable information, use this information to take many advantages from us or cyber bully or stalk our activities. [105] This may lead to suicides especially in teenagers which are increasing day by day and brings disgrace to people among society. [106] Many people develop inferiority complex about their looks and either start changing them or start to hate themselves for their looks. [107] The rudeness among children will increase and many surveys show that many teenagers consider themselves cool if they cyber bully others. [108] Children these days are not going out to play but are sitting at home and are getting addicted to harmful mobile games and do not get a chance to mingle with different kinds of people and learn new information. [109] The connect with the family and friends as been lost as the household members are always on their electronic gadgets and are less worried about their surrounds due to which many people are not able to open up with their parents and teenagers are indulging into wrong activities like gets addicted to phones instead of concentrating on studies and may other practices like drugs or get into depression and do something harmful and by the time their parents or relatives find out about this it would be too late to rectify their mistakes. [110]Machines can get damaged easily due to the prevailing climatic conditions like machine parts can get ruptured due to oxidation and forming layer by the metal. [111] Requires high maintenance and once bought need high energy supply especially in the manufacturing industries due to which lots of current are used and many machines needs to bereplaced after a short period of time and needs constant servicing of products. [112] Due to increase in machines the elements like coal (used to supply energy), iron, magnesium, silicon (these metals are used in manufacturing the machines) and so on are getting depleted at a faster rate.[113] The extensive use of machines have led to different kinds of pollution like sound pollution which results in loss of hearing, air pollution(affects our breathing) and recently Delhi has been suffering a lot due to air pollution as people are not able to come out due to smog which blocks their visibility, water pollution(chemicals in water),many animals have died and are on the verge of extinction(example in the water of Ganges the Gangetic dolphins are in the verge of extinction)and so on as machines do not think about the wellbeing of the people and are and to do the job as programmed. [114] Before also pollution used to be there but not to this extent. [115] Many people are locked into AI which are leading to health issues like eye irritation, obesity and so on . [116] It lacks the experience and knowledge which we gain through offline mode as even to make machines we physical experience.

Conclusion
[117] In my opinion AI is going to make our work easier and apparently safer and is going to decide and shape our near future. [118] There is no doubt in that but it depends on how safe we use it. [119] We should be thoughtful and not share our personal information to others(like colleagues, friends or people who spam us by contacting us). [120] AI should be used in such a way that it doesn't take away their jobs from many people. [121] Unemployment is bound to happen but we

should take steps to reduce it or replace their job in some other firm where they know how to work. [122] AI is going to be our masters(without them we won't be able to do anything) but it should be controlled by wrong people then it would create a huge destruction to the mankind. [123] In near future AI would be driving us to the places controlling our finances and our personal details and if we want rental cars or maybe even helicopters would come to our place to pick us up. [124] AI has created hygiene and safety for labourers and also to people who use it. [125] It has also created many data scientists and practically worlds three-fourth population knows how to handle a computer or phone and how to use it. [126] It all depends on how efficiently we use it to make our world better a better place for all.

References

Barbezat, G., & Wuest, G. (1998). Advantages for automotive industry of plasma spray coating of Ai–Si cast alloy cylinder bores. *Surface engineering*, *14*(2), 113-116.

Beck, J., Stern, M., & Haugsjaa, E. (1996). Applications of AI in Education. *XRDS: Crossroads, The ACM Magazine for Students*, *3*(1), 11-15.

Buchanan, B. G. (2005). A (very) brief history of artificial intelligence. *Ai Magazine*, *26*(4), 53-53.

Bullers, W. I., Nof, S. Y., & Whinston, A. B. (1980). Artificial intelligence in manufacturing planning and control. *AIIE transactions*, *12*(4), 351-363.

Chen, H., & Wang, F. Y. (2005). Guest editors' introduction: Artificial intelligence for homeland security. *IEEE intelligent systems*, *20*(5), 12-16.

Chowdhury, M., & Sadek, A. W. (2012). Advantages and limitations of artificial intelligence. *Artificial intelligence applications to critical transportation issues*, *6*(3), 360-375.

Das, S. K., Adhikary, G. N., Islam, M. N., Paul, B. K., & Das, G. G. (2004). Artificial insemination (AI) by raw semen: Its advantages and disadvantages in Deshi chicken (Gallus domesticus). *International Journal of Poultry Science*, *3*(10), 662-663.

Davenport, T., & Kalakota, R. (2019). The potential for artificial intelligence in healthcare. *Future healthcare journal*, *6*(2), 94.

Filippetti, F., Franceschini, G., Tassoni, C., & Vas, P. (2000). Recent developments of induction motor drives fault diagnosis using AI techniques. *IEEE transactions on industrial electronics*, *47*(5), 994-1004.

Haenlein, M., & Kaplan, A. (2019). A brief history of artificial intelligence: On the past, present, and future of artificial intelligence. *California management review*, *61*(4), 5-14.

Idris, N. B., & Shanmugam, B. (2005, December). Artificial intelligence techniques applied to intrusion detection. In *2005 Annual IEEE India Conference-Indicon* (pp. 52-55). IEEE.

Jiang, F., Jiang, Y., Zhi, H., Dong, Y., Li, H., Ma, S., ... & Wang, Y. (2017). Artificial intelligence in healthcare: past, present and future. *Stroke and vascular neurology*, *2*(4).

Khanzode, K. C. A., & Sarode, R. D. (2020). Advantages and Disadvantages of Artificial Intelligence and Machine Learning: A Literature Review. *International Journal of Library & Information Science (IJLIS)*, *9*(1), 3.

Lee, J., Davari, H., Singh, J., & Pandhare, V. (2018). Industrial Artificial Intelligence for industry 4.0-based manufacturing systems. *Manufacturing letters*, *18*, 20-23.

Li, B. H., Hou, B. C., Yu, W. T., Lu, X. B., & Yang, C. W. (2017). Applications of artificial intelligence in intelligent manufacturing: a review. *Frontiers of Information Technology & Electronic Engineering*, *18*(1), 86-96.

Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). Intelligence unleashed: An argument for AI in education.

McCarthy, J. (1998). What is artificial intelligence?

Medvedev, S. P., Shevchenko, A. I., & Zakian, S. M. (2010). Induced pluripotent stem cells: problems and advantages when applying them in regenerative medicine. *Acta Naturae (англоязычная версия)*, *2*(2 (5)).

Newell, A. (1982). *Intellectual issues in the history of artificial intelligence*. CARNEGIE-MELLON UNIV PITTSBURGH PA DEPT OF COMPUTER SCIENCE.

Nilsson, N. J. (2009). *The quest for artificial intelligence*. Cambridge University Press.

Osipov, S. S., & Ulimova, N. V. (2013). ADVANTAGES AND DISADVANTAGES OF AI. *SCIENCE AND WORLD*, 77.

Pollack, I. P., Quigley, H. A., & Harbin, T. S. (1976). The Ocusert pilocarpine system: advantages and disadvantages. *Southern medical journal*, *69*(10), 1296-1298.

Russell, S., & Norvig, P. (2002). Artificial intelligence: a modern approach.

Waisi, M. (2020). Advantages and disadvantages of aI-based trading and investing versus traditional methods.

Weibelzahl, S., & Weber, G. (2002). Advantages, opportunities and limits of empirical evaluations: Evaluating adaptive systems. *KI*, *16*(3), 17-20.

Woolf, B. (1991). *AI in Education*. University of Massachusetts at Amherst, Department of Computer and Information Science.

Yampolskiy, R. V., & Spellchecker, M. S. (2016). Artificial intelligence safety and cybersecurity: A timeline of AI failures. *arXiv preprint arXiv:1610.07997*.

Yu, K. H., Beam, A. L., & Kohane, I. S. (2018). Artificial intelligence in healthcare. *Nature biomedical engineering*, *2*(10), 719-731.