



ARTIFICIAL INTELLIGENCE: NEXT PHASE OF HUMAN EVOLUTION

WHAT THE FUTURE BEHOLDS AHEAD

EDWARD TSHEPO SIBEKO

COURSE NAME: Diploma in ICT Application Development (ECP)

STUDENT NUMBER: 223169722

LECTURER: Ms. P Sbotoboto

COURSE MODULE: Academic Literacy

DUE DATE: 25 August 2022

ARTIFICIAL INTELLIGENCE: NEXT PHASE OF HUMAN EVOLUTION WHAT THE FUTURE BEHOLDS AHEAD

Edward Tshepo Sibeko

Diploma in ICT in Application Development (ECP)

223169722@mywsu.ac.za

Abstract

The evolution of Artificial Intelligence since in the nineties is naked. In this paper we look at what is AI and the background of it, and what kind of AI have we achieved to which AI can be an existential threat once achieved between the three types of AI. However, we then look at how AI itself has impacted the world and what is the future of AI and Humans per se.

Keywords: Artificial Intelligence, AI, human, machines



Figure 1 [This Photo](#) of Artificial Intelligence by Unknown Author is licensed under [CC BY-SA-NC](#)

Introduction

The discovery of Artificial Intelligence (AI) Software marked a major turning point in the history of Computer Science and Mathematics. The use of a computer program by humans and computers, was developed in the early 1840s by Ada Lovelace about a century before Konrad Zuse designed the first in the world programmable computing machine. (Is Lady Augusta Ada first computer programmer? –

Easierwithpractice.com, no date) Although Ada was the first computer programmer, “The answer to a frequently asked question of who invented Artificial intelligence is very broad, as many people contributed to the invention and timely success.” (Who Invented Artificial Intelligence? Update 2022 - High-Tech Magazine, no date) After attempts that portrayed human thinking as a symbolic system that had the ability to mimic the human brain and thought system by classic philosophers, finally in 1956, John McCarthy invented the term “Artificial Intelligence” at his conference that was held at Dartmouth College.

Despite the ubiquity of AI, it is still not approached with broad acceptance because most people are circumspect of it. (AI acceptance and the man on the Clapham Omnibus - ThinkAutomation, no date) However, the success of AI is still rejected and debated but the reliability of this technology through the mistrust is increasing. This essay begins by defining what is AI. It then discusses the contemporary beliefs about technology that apprised the resistance of AI globally.

Subsequently, it asks to what extent the introduction of AI Since 1956 facilitated a shift in these beliefs and the future of AI in Human Evolution.

What is AI?

AI is an acronym that stands for Artificial Intelligence. AI is the ability of a computer program to learn, think and simulate human intelligence by performing tasks that would otherwise be performed by a human.



Figure 2 [This Photo](#) of Alan Turing (1912–1954) by Unknown Author is licensed under [CC BY-SA-NC](#)

The History of AI

Can machines think? This was the idea put forward in the year 1950 by Alan Turing when he devised the “Turing Test” (Who Invented Artificial Intelligence? Update 2022 - High-Tech Magazine, no date), a test to determine if a machine was intelligent. Both human and an artificial intelligence had to be queried and if the querier was unable to differentiate from the feedback, then the machine would be considered intelligent. (“Turing Test | Turing

Test”) After this the test had been contentious at best and utterly impossible at worst. His proposal influenced researchers globally too seek what intelligence is and how machines might exhibit intelligence. Later then as mentioned above, the term ‘Artificial intelligence’ was invented in the year 1956 by John McCarthy at the first-ever AI conference at Dartmouth College. “Later that year, JC Shaw, Herbert Simon, and Allen Newell created the first AI software program named ‘Logic Theorist’”. (“Category:8.1.6 Artificial intelligence - PetroWiki”)

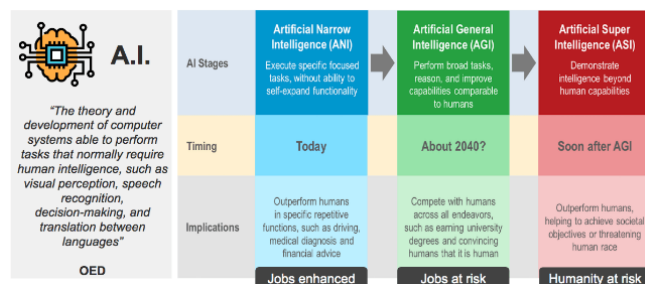


Figure 3 This Photo of Three Types of AI is by an Unknown Author

Types of AI

Artificial Narrow Intelligence (ANI) also commonly known as Weak AI or Narrow AI. This is the AI that we have been able to successfully realize and implement in the present date. (“What is Artificial Narrow Intelligence (ANI)? - GeeksforGeeks”) It is a purposeful, narrow rangeability with constraints and limitations holding perspective that executes

specific focused tasks, without the ability to the self-expand mechanism (functionality) and that is why they are commonly referred to as WEAK AI Machines. “Narrow AI doesn’t replicate proper human intelligence, it basically simulates/mimics human behavior based on a narrow range of parameters.” (“What is Artificial Narrow Intelligence (ANI)? - GeeksforGeeks”)

Artificial General Intelligence (AGI) also commonly known as Strong AI or Deep AI is the theoretical intelligence of machines. (“What is Artificial General Intelligence (AGI)? - GeeksforGeeks”) It is the conceptualization where machines emulate or mimic the behavior of a human or their mind’s intelligence, to solve any varied problems with the ability to learn and apply this

intelligence. “AGI can be thought to understand, interpret and act in a way that is indistinguishable from that of a human, in terms of performance because of having comprehensive knowledge and cognitive computing capabilities.” (“General (Strong) AI — EITC”)

Artificial Super Intelligence (ASI), same as the AGI is the theoretical AI, and we have not been able to attain it, but we know what will happen once we do. So, it is the fictional AI which not only interprets human-behavior and intelligence, but ASI is where machines will have consciousness enough to surpass the capacity of human intelligence and behavioral ability. (“What is Artificial Super Intelligence (ASI)? - GeeksforGeeks”) We have seen in the Sci-Fi Movies like [Terminator: Dark Fate](#) where super-intelligent advanced liquid Terminator AI became an existential threat. However, a movie in 1999 named [The Matrix](#) was premiered showing the twist that the whole of humanity was living in a simulation and that surprised a lot of viewers. Ever since then, AI incited fears of job loss, spying, and a robotic takeover – to name but a few promulgated concerns. This led to AI-phobia and people became more concerned of what the future beholds as they realized ASI capabilities.

Now let us look at the Pros and Cons of Artificial Intelligence. Allow me to start with the downside of this technology first and the upside of it thereafter.



Figure 4 This Photo of AI Take over the World is by an Unknown Author

Disadvantages of AI

The replacement of human resources in every field by robots, will lead us to have to deal with serious matters like unemployment in turn leading to mental depression, poverty, and crime in the society because there will be no income to maintain the lifestyle and satisfaction of needs. Empty time for humans will be left because they cannot channelize their energies and harness their expertise as their work life would be deprived. One of the major dis-

advantages of AI is that it cannot be ‘human’ (Disadvantages of Artificial Intelligence - Tech Spirited, no date) because it is unable to build an emotional connection with other human beings, which is a crucial aspect of team management.

AI lack creativity as it cannot learn to think creatively only can with pre-fed data and past experiences. AI lacks data security to a point during processing it makes use of massive amounts of data, and some could be sensitive personal information. “Digital Marketplaces and digital workforces became possible, “hollowing out the internet,” meaning that businesses and people could connect and exchange products and services. Scott McNealy, the chief executive of Sun Microsystems in 1999, famously remarked, “You have zero privacy anyway. (“The 4th Industrial Revolution Impact | SpringerLink”) Get over it [18].” This was a realization that internet enabled access (and personalization) would also collect your data and activities.” (“The 4th Industrial Revolution Impact | SpringerLink”) The implementation of AI is also expensive due to limited supply of qualified workers to build AI tools and requirement of deep technical expertise. Yes, just like us humans AI has the downside of it, but it also has the beauty that can make up all to all of this.

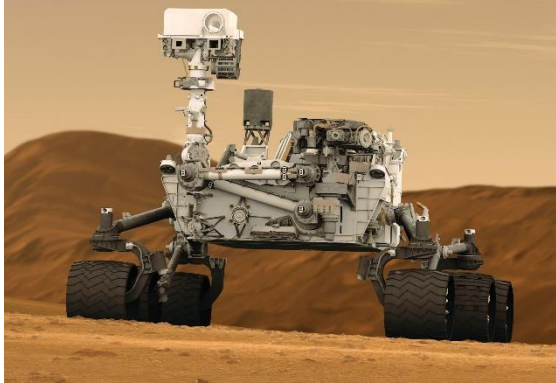


Figure 5 This Photo of NASA's Mars Exploration Rover is by an Unknown Author

Advantages of AI

The ability that Machines can be programmed, and they do not have emotions, this means that they can work prolonged hours without getting bored or distracted or even tired. AI also plays a huge role to our daily routine. Mind you, you have a smartphone that has Google Assistant for Android, Siri for iOS, Alexa for Amazon, or Cortana for Windows. All these are artificial intelligence-powered virtual assistants that you interact with, primarily, through natural voice communication. You can ask them any-

thing to setting meetings, alarms, reading messages and making calls for you. A smartphone is an example of how we utilize the power of AI to ease our day to day lives.

In the process of utilization, you would find that they can also predict what you are going to type next to correcting spelling errors made by you. See you do not have to be perfect in any language you are writing in especially English. User's face or fingerprint unlock detections most smartphone devices have that algorithm detectors to Fraud detections used by Financial Institutions to verify transactions. We also have AI applied in the Medicine sector. Doctors or Physicians use health care devices to assess the patient's health-related data and intimate the risk factors. Human brain functionality can also be stimulated with a huge software that can detect as well as monitor the neurological disorders. Tumors are also treated without damaging the unaffected surrounding tissues using Radiosurgery artificial intelligence.

These complex machines can be utilized to overcome human limitations by replacing humans whenever we felt the process done by the human is hazardous to managing huge volume of data for storing and processing. (Advantages of Artificial Intelligence | Top 7 Most Useful Advantages of AI, no date) Intelligent robots are also used to explore space because they are, "cheaper, safer, and better than humans to explore." "They do not need food, water, exercise, and they are immune to space radiation." ("Robots Versus Humans in Space Exploration – Speculative Tertulia") We can go to the most inhospitable places in the solar system using robots."

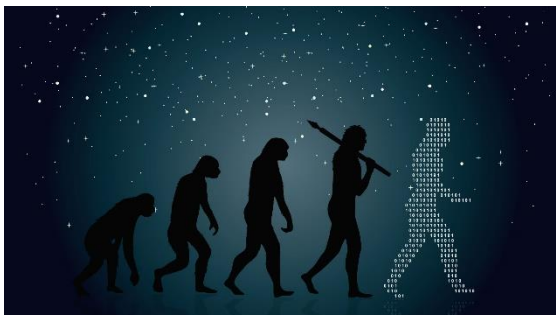


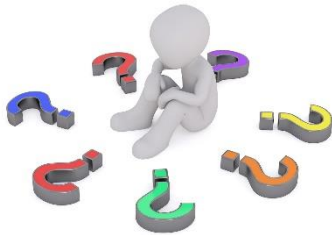
Figure 6 This Photo of Future Evolution into the Present Digital World by Unknown Author is licensed under [CC BY-ND](#)

The Future of AI

Look around you, you will notice that every industry, businesses, schools, have been impacted by Artificial Intelligence and it will continue to do so in the future. It has come into view as one of the most exhilarating and advanced technologies of our time. Robotics, Big Data and IoT are all powered by AI. Around the globe widespread research on Machine Learning and AI is being conducted by companies. Due to the investments in the technology. "At the current growth rate, it is going to be a driving force for a very long time in the future as well."

(What is Artificial Intelligence – AI Definition, Types & Future, no date) Computers can generate massive amounts of data and use it through the help of AI to make decisions and discoveries faster than human in a fraction of time. AI has already shaped our world. If used with care, it can end up massively benefiting human society in the future.

Conclusion



However, with all the benefits and convenience the computers had brought us in the 20th century, there is still a mix up of emotions and thus a perpetual of panic job elimination of human due to the wide-spread implementation of AI. Not only common people but tycoons like [Elon Musk](#) are voicing alerts at the growing pace of AI research. (“What is Artificial Intelligence – AI Definition, Types & Future”) AI systems are also viewed to pave a way for a nationwide violence.

But that is a very stereotypical way of looking at things! Going back in time to compare that environment and the present one, and say you cannot spot the difference, it is like saying Bill Gates could not pay his bill because he is too broke. See there are always fresh and new job roles emerging for every job lost to technology. In this era, it is crucial for one to be computer literate to understand the world of technology. AI can automate the human capabilities but for now it cannot be that smart to even replace humans. (Conclusion - ARTIFICIAL INTELLIGENCE, no date) Yes, it shall rise in its potential and goodwill and be mankind’s benefit, but it has a long way to go. However, I still hope artificial intelligence can be achieved in the future.

References

- Advantages of Artificial Intelligence | Top 7 Most Useful Advantages of AI* (no date). Available at: <https://www.educba.com/advantages-of-artificial-intelligence/?source=leftnav> (Accessed: 22 August 2022).
- AI acceptance and the man on the Clapham Omnibus - ThinkAutomation* (no date). Available at: <https://www.thinkautomation.com/bots-and-ai/ai-acceptance-and-the-man-on-the-clapham-omnibus/> (Accessed: 21 August 2022).
- Category:8.1.6 Artificial intelligence – PetroWiki* (no date), Available at: https://petrowiki.spe.org/Category:8.1.6_Artificial_intelligence (Accessed: 23 August 2022).
- Conclusion - ARTIFICIAL INTELLIGENCE* (no date). Available at: <https://artificialintelligence6.weebly.com/conclusion.html> (Accessed: 23 August 2022).
- Disadvantages of Artificial Intelligence - Tech Spirited* (no date). Available at: <https://techspirited.com/disadvantages-of-artificial-intelligence> (Accessed: 22 August 2022).
- General (Strong) AI — EITC* (no date), Available at: <http://www.eitc.org/research-opportunities/new-media-and-new-digital-economy/ai-machine-learning-deep-learning-and-neural-networks/ai-research-and-applications/the-three-stages-of-ai/general-ai> (Accessed: 23 August 2022)
- Is Lady Augusta Ada first computer programmer? – Easierwithpractice.com* (no date). Available at: <https://easierwithpractice.com/is-lady-augusta-ada-first-computer-programmer/> (Accessed: 21 August 2022).
- The 4th Industrial Revolution Impact | SpringerLink* (no date), Available at: https://link.springer.com/chapter/10.1007/978-3-319-62479-2_1 (Accessed: 23 August 2022).
- Turing Test | Turing Test*, Available at: <https://turingtest.mit.edu/> (Accessed: 23 August 2022).
- Robots Versus Humans in Space Exploration – Speculative Tertulia* (no date). Available at: <https://ingmaral-bizu.com/robots-versus-humans-in-space-exploration/> (Accessed: 22 August 2022).
- What is Artificial Intelligence – AI Definition, Types & Future* (no date). Available at: <https://intel-lipaat.com/blog/what-is-artificial-intelligence/> (Accessed: 21 August 2022).
- What is Artificial General Intelligence (AGI)? – GeeksforGeeks* (no date), Available at: <https://www.geeksforgeeks.org/what-is-artificial-general-intelligence-agi/> (Accessed: 20 August 2022).
- What is Artificial Narrow Intelligence (ANI)? – GeeksforGeeks* (no date), Available at: <https://www.geeksforgeeks.org/what-is-artificial-narrow-intelligence-ani/> (Accessed: 21 August 2022).
- What is Artificial Super Intelligence (ASI)? – GeeksforGeeks* (no date), Available at: <https://www.geeksforgeeks.org/what-is-artificial-super-intelligence-asi/> (Accessed: 21 August).
- Who Invented Artificial Intelligence? Update 2022 - High-Tech Magazine* (no date). Available at: <https://htechtrends.com/who-invented-artificial-intelligence/> (Accessed: 21 August 2022).