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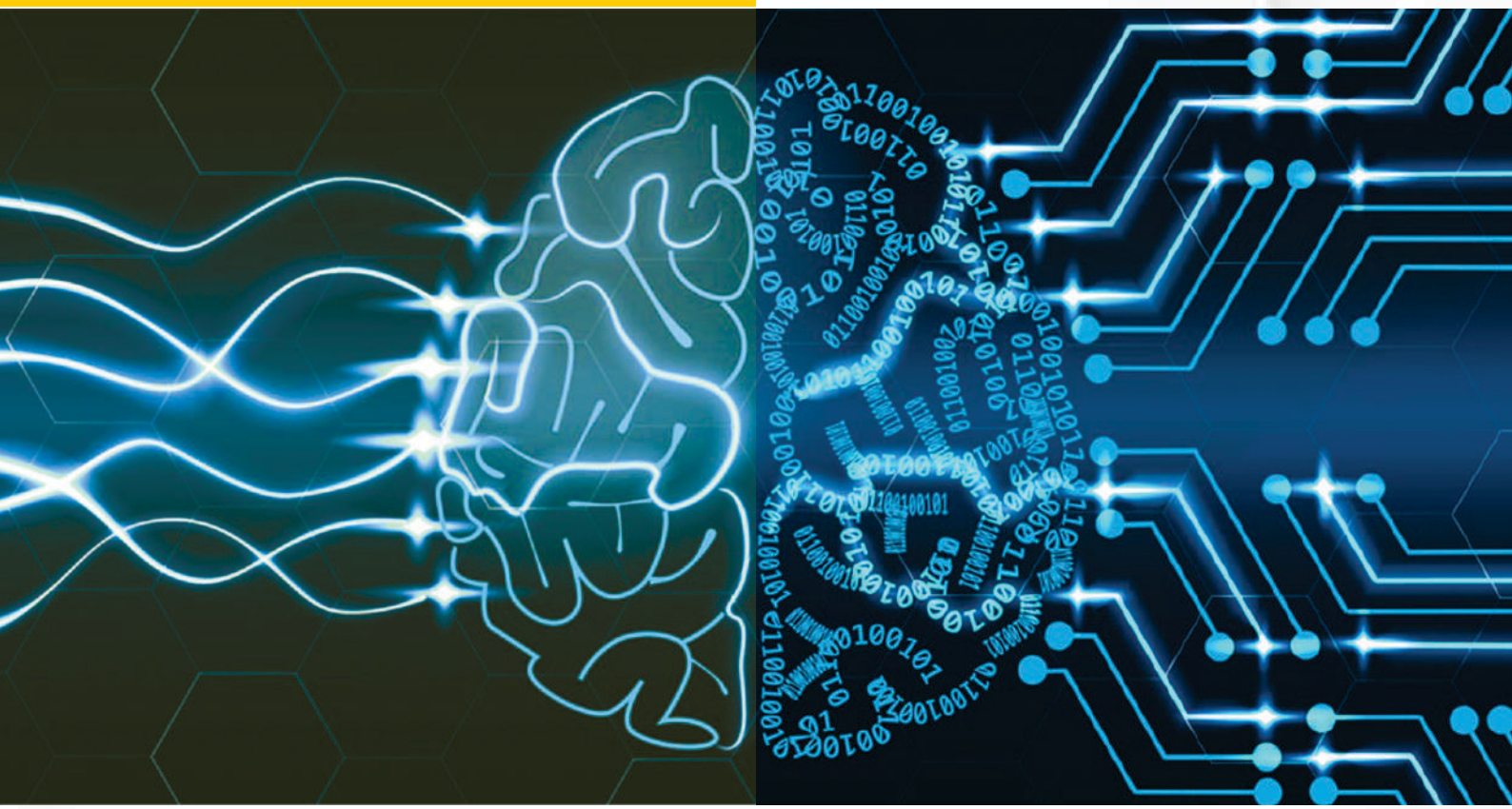

ARTIFICIAL INTELLIGENCE (AI):

TECHNOLOGY FOR EVOLUTION OR APOCALYPSE OF MANKIND

A whitepaper exposé on the Potentials, Applications and Dangers of Artificial Intelligence

Includes notable mentions of:
DARPA, IBM, Deep Blue, Google, Amazon, Facebook, UFO/UAP, Element 115, Oxford Insights, ICDR, ITU, NVIDIA DGX A100, Neuralink Corporation, Elon Musk, Albert Einstein, Ben Rich, PwC, Skunkworks, Lockheed Martin etc

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CONTENT

ABBREVIATIONS AND ACRONYMS

AI	Artificial Intelligence
BCHI	Brain Chip Interface
BCI	Brain Computer Interface
BI	Business Intelligence
BVN	Bank Verification Number
CBI	Computer Brain Interface
CPU	Central Processing Unit
DARPA	Defence Advanced Research Projects Agency
GB	Giga Bytes
GPAI	Global Partnership on Artificial Intelligence
GPS	Global Positioning System
GPU	Graphics Processing Unit
IBM	International Business Machines Corporation
ICBM	Inter-Continental Ballistic Missile
ICT	Information and Communications Technology
ID	Identification
IDRC	International Development Research Centre
ITU	International Telecommunication Union
NIN	National Identification Number
OECD	Organisation for Economic Co-operation and Development
PwC	Price Waterhouse Coopers
RADAR	Radio Detection and Ranging
Sci-Fi	Science Fiction
SSN	Social Security Number
TMS	Transcranial Magnetic Stimulation
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UAP	Unidentified Aerial Phenomena
UFO	Unidentified Flying Object
US	United States
USA	United State of America

1.Synopsis on Artificial Intelligence

Ever since the emergence of microcomputers in the 1970s, the tech space has experienced an ever-increasing presence of non-human intelligence applications in diverse fields. This intelligence has evolved over the years to become what we now popularly refer to as Artificial Intelligence (AI). The ability of machines to learn patterns, execute tasks and in some cases take decisions (based on data) have gained good traction in recent years. Little wonder the International Telecommunications Union (ITU) in its 2018 News release recognized AI one of the twelve (12) new and emerging technologies.

Electronic devices, computers and machines in general are no longer the traditional ON and OFF systems we were once used to, they are fast becoming intelligent with a programmable, retainable memory capable of 'discerning' and 'learning' over time – this is what AI is all about.
Like with most technologies, there are high tendencies for either good or evil applications based on who, how & what takes the decisions. Typical examples we have seen are: nuclear power, stealth, quantum mechanics, the internet etc.
Some pundits have argued to extremes that AI will bring about the extinction or evolution of the human species.

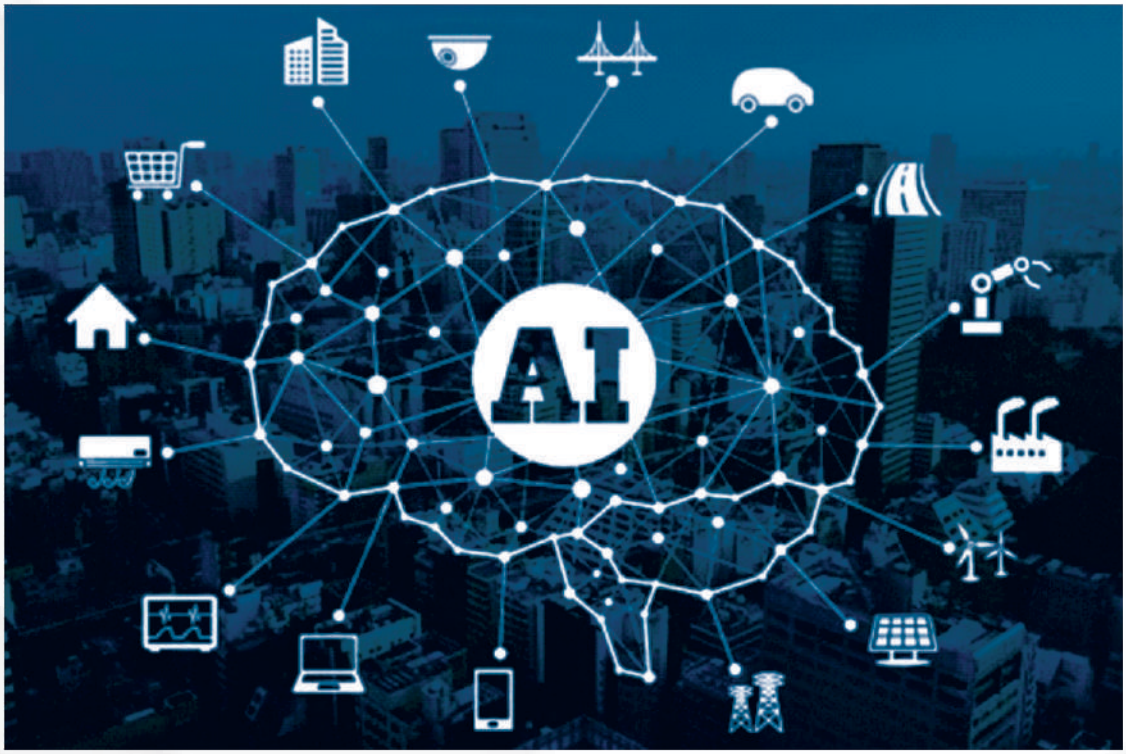


Figure 1: Endless possibilities with AI

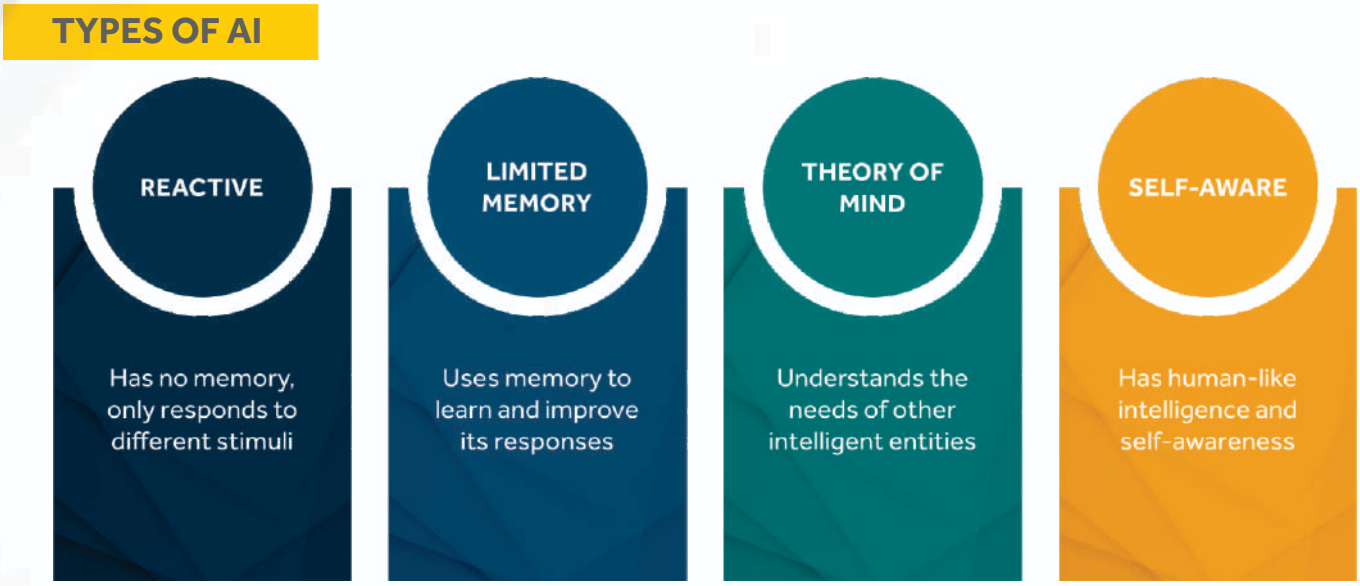
Image Source: https://cadburycommunications.wordpress.com/2018/08/08/artificial-intelligence-5-scenarios-for-good-or-evil/

1.Synopsis on Artificial Intelligence

While it is exciting to positively harness the powers of AI and apply them in various fields, we cannot overlook the dangers the technology portends.
In just about three (3) decades, the internet and computing technologies have so advanced that we now have superfast internet accessible by remarkably fast data networks. Same will be the case of AI within the next two (2) decades.
The apocalypse of humanity could draw near faster OR the transcendence of mankind into super-intelligent species may be attained much faster as a result of AI. The mandate of man to subdue the earth and dominate it may as well, be consolidated by extensive use of AI technology.

2. Artificial Intelligence Classified

'Learning', 'Discerning' and 'Execution' are at the heart of modern AI models. In formal contexts, there are four (4) main types of AI as shown in the figure below:



Source: https://www.forbes.com/sites/cognitiveworld/2019/06/19/7-types-of-artificial-intelligence/?sh=63a98b17233e

2.1 Reactive AI

This refers to systems without any form of memory and perform specific tasks. Every action is pre-programmed and there is no reference or influence from previous actions. It is the oldest form of AI. A notable example was in 1997, when IBM's Chess AI computer 'Deep Blue', shocked the world by defeating chess grandmaster Garry Kasparov in a six (6) match battle.

2.2 Limited Memory AI

This type of AI system has little memory, can learn and master execution of a task based on previous tasks. Put simply, they are reactive AI machines with limited memory that undergo learning based on large volume of reference data. Common examples are self-driving cars, chat bots, image recognition applications.

2.3 Theory of Mind AI

These systems are designed to understand and interpret human emotions. They are designed to have artificial emotional intelligence; sensors are a critical component of their systems. They are also capable of predicting human actions, preferences and behaviour. This type of AI is already being integrated into the human society. Current applications include sex dolls, home companion robots, etc.

2. Artificial Intelligence Classified

2.4 Self-Aware AI

These are AI systems that can learn extensively, make decisions and are totally aware of their environments. They rely greatly on sensors and fast processing microchips. Most virtual home & mobile assistants like the Amazon Alexa, Google Home, Apple's Siri etc (are elementary self-aware AI applications) are now so advanced that they not only learn but are capable of self-awareness. Several military applications such as early warning and counter-measure defence systems are high level applications self-aware AI.

3. Digital Evolution of Humans by AI

The continuous advancements in computer technology and data speeds suggest that self-aware artificial intelligence will in no time exceed natural human intelligence. To checkmate this, scientists and engineers are also upping their game to ensure the human species stays relevant in that age and time.
This race of man versus machine will undoubtedly lead to the digital evolution of the human species. By 2050, bio neutral networks and AI powered human intelligence will be a very common sight; cyborgs will walk major streets of the world and seamlessly communicate and share data with humans.

3.1 Brain Chip Interface (BCHI) and Implants

Since the late 90s, numerous research and huge investments have been made in the area of human enhancement by computers. Innovation in microchip technology and communication networks have been key accelerators for this.

Figure 2: Visualization of emitted brain power from brain chip implant

Brain Chip Interface, BCHI, is a hybrid system where brain cells and chip-based memory establishes a close physical interaction allowing for transfer of information. These chips are being designed to increase human brain power as well

3. Digital Evolution of Humans by AI

as sensory functions and are already in the works; animal and human trials have begun.
Elon Musk in April 2021, revealed that: "First Neuralink product will enable someone with paralysis to use a smartphone with their mind faster than someone using thumbs"

Tech companies like Neuralink Corporation, Kernel etc. are at the forefront of these innovations. Transcranial Magnetic Stimulation (TMS) makes it possible for data exchange between the Brain Computer Interface (BCI) and Computer Brain Interface (CBI).
This AI-powered technology will bring about the following as regards the human species:

a. Creation of a new breed of super humans.
b. Tackle ailments like diabetes, obesity etc.
c. Cure neurological diseases like Alzheimer's, Parkinson's, Dementia, paralysis etc.
d. Improve the brain's memory retention and processing power.
e. Communication via telepathy.
f. Diverse data storage in chip implants.

A 2016 survey of Americans showed that "34% of Americans are excited about the possibility of microchips implanted into their brains".

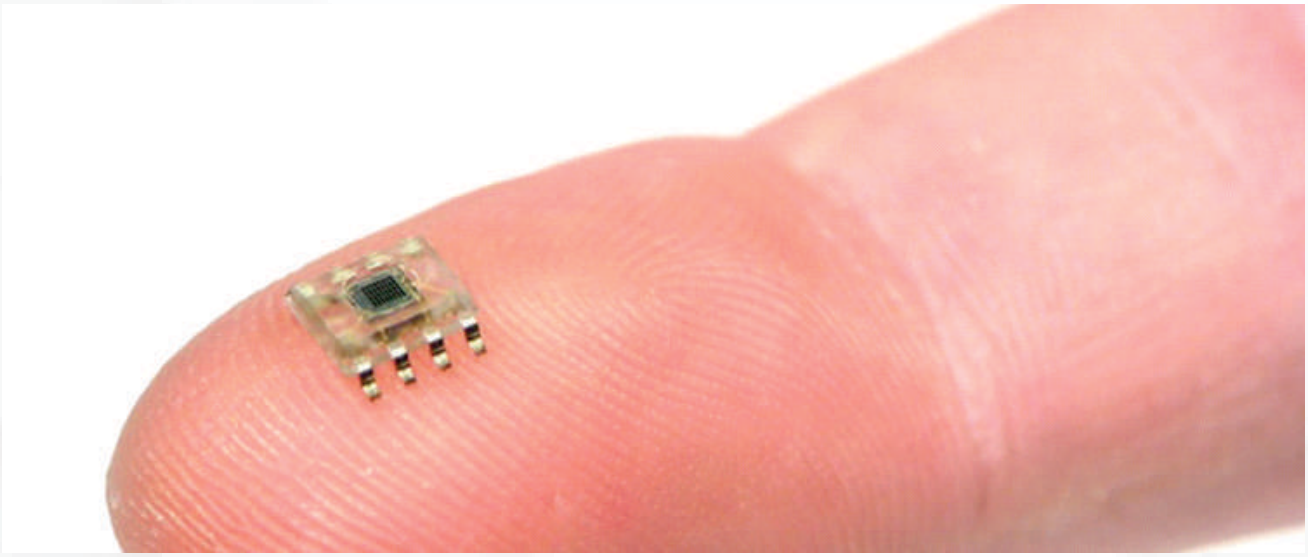


Figure 3: A Brain microchip

Image Source:
https://www.naturalnews.com/050440_brain_implants_mind_control_transhumanism.html

3. Digital Evolution of Humans by AI

In reality, these microchips are so small that one may not even know if and when they get implanted. The Defence Advanced Research Projects Agency, DARPA, has since 2017, perfected its brain implant chip technology and are currently developing neural-coding devices for next level deployments.

3.2. Human Identity Management

Biometric technology has proven that every single human can be uniquely identified by virtue of fingerprint, voice, facial recognition, retinal scan etc. While biometric technology in itself is smart, the introduction of AI has extended the frontiers of biometrics and made it much smarter. AI-powered biometric is already here and has birthed new capabilities for identification and verification of humans as seen in new facial recognition technology and fingerprint implants.

A person's entire data and credentials for identification can be embedded in a bionic chip implant and placed anywhere on their skin. It can also become the new channel for financial transactions.

This implies that unique human identifiers for citizen identification can easily be coded and implanted into humans. Same applies for customers of financial institutions, licensing of drivers, student & employee Identification etc.

Figure 5: Smart Contact Lenses

a. Technology consolidation of the identification and verification of humans – a new global ID for every human. This global ID will be implanted in humans in the form of microchips and/or smart contact lenses.

Figure 5: Smart Contact Lenses

3. Digital Evolution of Humans by AI

b. The introduction of a unified global ID has the direct consequence of determining the criteria for financial transactions & trading. Financial transactions will be completely cashless and based on identity. The technology promises to break the current barriers of financial transactions. These chips will be online available and connected to the super internet. Imagine a scenario where your bank balances and crypto wallets are accessible on a microchip implanted on the back of your palms.

c. More accurate biometric identification and verification systems.

3.3. Augmented Reality, Virtual Reality and Wearables

AR and VR technology powered by artificial intelligence are game changers for critical sectors such as education, commerce, tourism, health, entertainment etc. Given the recent advancement being recorded in this area, the new digital age is poised to totally transform the social habits of humans within the next three decades. Machines will run the show and inter-human interactions will be at their barest minimum.

Figure 6:AI powered VR Gear in action

Image Source:
https://www.healthline.com/health/vr-motion-sickness

3. Digital Evolution of Humans by AI

AI in combination with AR and VR will evolve the social behaviour of humans as follows:

a. Education in the next few decades will largely be by virtual means; students will wear AR and VR gears to attend classes from anywhere in the world via a superfast internet connection. AI will help simulate a near real life learning experience in both theoretical and practical learning sessions. Learning can infinitely be revisited at will.

b. Gaming, shopping, entertainment and even tourism will experience a rebirth thanks to the potentials of these technologies in fusion with AI.
Imagine doing a virtual shopping from the comfort of your home and office just by wearing a VR gear, walking down different aisle, loading your basket, doing a virtual checkout and having a drone deliver all shopped items within fifteen (15) minutes based on your specified delivery address.

c. Patient-doctor sessions, customer service experience etc, will be done purely by AR and VR technologies powered by AI.

d. Tourism will take a new turn as travellers need not 'travel' to visit and experience major cities of the world. With a VR gear, one can have the experience of any desired travel destination. AI will improve the capability of AR and VR technologies to deliver realistic, real time experiences for users.

e. Diagnostics for vehicles, machines and electronics in general will be intelligently done by utilising AR.

Ladies and Gentlemen, the enumerations above are just a short trailer of how mankind shall live by 2050 as a result of artificial intelligence technology & applications.

3. Digital Evolution of Humans by AI

Figure 7: AI powered Wearable in Action

Image Source:
https://www.roboticsbusinessreview.com/rbr/wearable_ai_can_be_your_personal_social_coach/

In that era, smart wearables will be able to automatically:
a. Send warning notifications, call 911, schedule an ambulance pickup, send vitals with the necessary GPS location data for patients who need such medical assistance.

b. Call law enforcement agencies automatically when they sense fear due to a threat situation such as kidnapping or abduction. This will be done with location data synchronously.

4. Potentials and Applications of AI for Humanity

4.1. Potentials of Artificial Intelligence for Good

While the AI technology seems scary, it also promises remarkable benefits for different sectors and industries. There is hardly any sector or industry without a useful AI application.

The UNESCAP in 2019 noted that, "These technologies (including AI) have innovative applications that are known to improve the quality of life, drive economic growth, and increase the productivity and efficiency in manufacturing and service sectors".

Google Cloud AI's adoption framework noted the following in regards to powers of AI: "Manufacturers, for example, are streamlining their capital expenses by implementing predictive maintenance. Financial institutions are enhancing their risk analysis. Retailers and media providers are personalizing their customer experience. And the travel industry is offering their customers dynamic pricing predictions. At the same time, academic and industrial advances in AI have resulted in better tooling, smarter algorithms, and more effective implementation techniques covering a wide range of use cases and datasets. These advances — combined with exponential gains in the cost of data storage, compute power, AI-centric hardware, and cloud computing — have democratized AI for industry in an unprecedented way".

Precision, predictive capabilities, data-driven decision making, risk reduction and improvements in efficiency are key areas where benefits of AI are most observable and remarkable.

Russian president, Vladimir Putin, in 2017, recognized that "the nation that leads in AI will be the ruler of the world". USA, Japan, United Kingdom, Germany and China are the leading countries in AI research. China recently announced its intention to become 'a principal world centre of artificial intelligence innovation' by 2030.

4.2. Global Readiness for Artificial Intelligence

The Oxford Insights and International Development Research Centre (IDRC) released the global AI readiness indices for 2020. The figure below shows the pillars and dimensions used for government AI readiness assessment.

4. Potentials and Applications of AI for Humanity

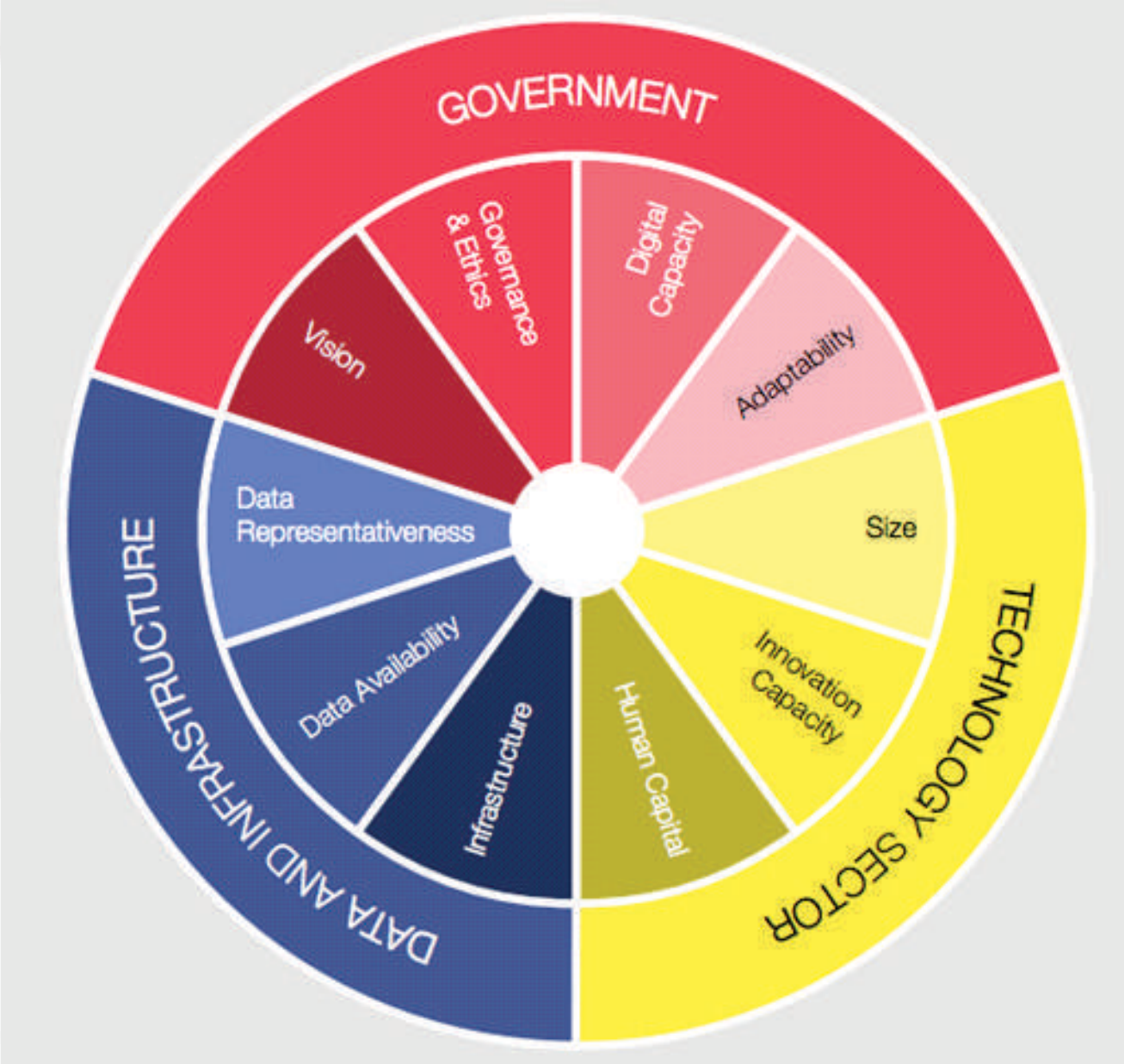


Figure 8: The pillars and dimensions of the Government AI Readiness Index

Image Source:
https://static1.squarespace.com/static/58b2e92c1e5b6c828058484e/t/5f7747f29ca3c20ecb598f7c/1601653137399/AI+Readiness+Report.pdf

4. Potentials and Applications of AI for Humanity

The top 10 country in terms of AI readiness is shown below:

Table 1: Top Ten (10) Countries for AI Readiness

Country	2020 Score	2020 Rank	2019 Rank	Movement
United States of America	85.479	1	4	↑
United Kingdom	81.124	2	2	N/A
Finland	79.238	3	5	↑
Germany	78.974	4	3	↓
Sweden	78.772	5	6	↑
Singapore	78.704	6	1	↓
Republic of Korea	77.695	7	26	↑
Denmark	75.618	8	9	↑
Netherlands	75.297	9	14	↑
Norway	74.430	10	12	↑

Key Findings - 2020

"The United States of America comes top of this year's index with the rest of the top five places going to Western European nations (the UK, Finland, Germany and Sweden). All of these countries score highly across the three pillars of the Index: government, technology sector and data infrastructure. Four of the top five already had published national AI strategies going into 2020, and the US launched the American AI Initiative in late 2019".

"The US is renowned for its private sector innovation, with 'Silicon Valley' being almost synonymous with cutting edge technology. This strength is reflected in its ranking; the highest score in the technology sector pillar by almost ten points. In particular, the US scores highly for the number of technology unicorns (198 to China's 103) and its public technology companies have the highest collective market value.

4. Potentials and Applications of AI for Humanity

Although small startups and research institutions can absolutely produce major breakthroughs in AI, these large technology firm such as Google, Amazon, Facebook and IBM are critical for driving and commercialising AI research. Although the US also scores well in the government and the data and infrastructure pillars (ranked 2nd and 7th in the world respectively), it is in the sheer size and innovative power of its technology sector that it really has an edge in AI."

"China, which has ambitions to challenge the US for global leadership in AI, performs surprisingly low in the Index, ranked 19th in the world. As such a large country with significant urban-rural inequalities, looking at China as a whole is likely to underestimate the strength of regional hubs such as Beijing and Shanghai. "

In April 2021, New Zealand installed the World's most advanced AI super computer (NVIDIA DGX A100) for powering universal AI workloads. The DGX A100 has eight A100 GPUs containing 40 GB of memory each for a total of 320 GB of GPU memory. When they all work together, they can process five quadrillion (5,000,000,000,000,000) of basic arithmetic operations per second.

4.3. Real life Applications and Use cases of AI for Humanity

According to the Global AI Readiness index of 2020, "In 2019, 42 countries signed up to the OECD principles on AI, agreeing to ensure that AI systems are designed in a way that is safe, fair and trustworthy. This year, 14 governments along with the EU joined together to create the Global Partnership on Artificial Intelligence (GPAI), an initiative to support the responsible development and use of AI".

The table below enumerates key applications and use cases of AI across different sectors for the betterment of mankind.

Table 2: Applications and Use cases of AI across Sectors

S/N	Sector	Application and Use Case
1	Agriculture	a. AI powered sensors for monitoring soil moisture. and nutrients aimed at ensuring maximum yield b. AI powered weed and pest control. c. Data driven fertilizer needs assessment system. d. Livestock health & status tracking. e. Animal species selection based on DNA matching to increase survivability indices.

4. Potentials and Applications of AI for Humanity

S/N	Sector	Application and Use Case
2	Defence	a. Early warning systems for inbound enemy threats and projectiles. b. Smart RADAR systems. c. Online real time surveillance systems capable of identifying threats and automatically determining best response options. d. Creation of super soldiers (chip implantation). e. Next generation stealth technologies. f. Next generation spy ware for espionage.
3	Education	a. Next Generation learning experience platform. powered by AI and complemented by AR, VR etc. b. Early student-failure warning systems based on predictive analysis and retrospective data. c. Smart malpractice detection & avoidance systems.
4	Financial Services	a. Predictive analysis for stock markets & FOREX rates. b. Early fraud-attempt warning & detection systems. c. Alternative Payment Solutions. d. Chat bots for customer service and enrolment. e. Automated Customer engagement and matching. f. Smart Business intelligence solutions.
5	Government	a. Disaster prediction, preventions & Early warning. b. Smart e-governance solutions. c. Self-teaching & Learning experience platforms. d. Next generation identify management solutions.
6	Manufacturing	a. Intelligent production-chain robotics. b. Smart programmable logic controllers. c. Automated Supply and demand chain prediction. d. Smart Quality control and quality assurance.

4. Potentials and Applications of AI for Humanity

S/N	Sector	Application and Use Case
7	Health	a.Early detection, prevention and cure of neurological diseases and disorder. b.Next generation telemedicine. c.Disease outbreak and case predictions, projections and contact tracing d.Epidemic and pandemic early warning system. e.Smart AI-powered Business intelligence solutions. f.Robotic surgeons g.DNA matching and gene coding h.New drug development and treatments
8	Oil and Gas	a. Superfast and accurate data analysis, computation and modelling. b. Next generation AI powered oil exploration techniques. c. Predictive analysis for oil and gas flow patterns. d. Early warning and fault detection system for pipelines, tank farms and reservoirs. e. Smart AI-powered Business intelligence solutions
9	Retail	a. Chatbots for customer service and enrolment services. b. Intelligent e-business solutions with smart BI capabilities. c. Smart consumer-to-product matching. Consumer purchase-order pattern recognition and predictive analysis.
10	Telecommunications	a. Next Generation Networks b. Internet of Things c. Smart Cities

5. The Dangers of AI - Apocalypse of Mankind

By the year 2100, there is no doubt that it will be a clear case of human evolution (digital species) versus apocalypse of mankind (extinction) - only one possible outcome will exist by this year; we strongly hope that it is the former that would be the reality when that time comes.
The possibility that the 3rd world war would have occurred by this time is almost a probable certainty. Many Sci-Fi movies have attempted to illustrate this. The truth remains that mankind has experienced two (2) world wars and will not survive a third given the level of technological advancements that are currently prevalent.
The analysis and enumerations below highlight the dangers of AI.

a. Machine-triggered World War

Technological advances in early warning systems, missile defence systems and hypersonic technologies pose the greatest danger in the escalation of a 3rd world war. This war, if and when it comes, will be a machine-triggered war. Mankind will trust so much in AI-powered machines and decision analyses that a false pre-emptive strike may trigger the next world war.
Visualize a scenario where an AI-powered Chinese missile silo automatically launches a nuclear ICMB on a US navy carrier purely based on a threat assessment that would normally have been squashed by diplomacy (and vice versa) OR a scenario where the Iranians launch a missile aimed at an Israeli town based on false intel and then the Israeli's counter measure of mutually assured destruction is to launch a nuclear weapon - All these hypothetically based on self-aware AI machine decisions. The permutations are just endless. If AI were very much advanced during the cold war, we might have experienced the 3rd world war already. In September 2017, Elon Musk noted that "**World War III will be triggered by a race for an all-powerful artificial intelligence"**. Albert Einstein is attributed to have said: "**I know not with what weapons World War III will be fought... But World War IV will be fought with sticks and stones**". Einstein already knew that world war III will be a global holocaust capable of ending humanity.

b. AI-powered Crimes

There will be increased capabilities for crimes involving identify theft, fingerprint alteration via implants, hacking, data theft, blackmail etc as a result of AI technology and other advances in computing. An example of this is the case of the drug trafficker who was apprehended in January 2019 by Spanish police after evading arrests for 15 years. Spanish police revealed that "The suspect had modified and changed his fingerprints to such an extent that they were no longer recognisable...

5. The Dangers of AI - Apocalypse of Mankind

as well as cutting and burning, he had used micro-implants of skin. He had also had a hair transplant to avoid being recognised."

c. Inter-Galactic Wars

The synthetization of the speculated "Element 115": Moscovium, which has been rumoured to be a key component of UFO/UAP propulsion system would have occurred much faster if AI was very advanced at the time of its discovery. Also, reverse engineering UFO/UAP crafts and real-time analysis of UFO/UAP flight paths & patterns would have been a lot quicker using AI-driven technologies. Mankind may in the near future, become able to seamlessly communicate with other celestial life forms. Issues hovering around galactic protection, space exploration, earth's resources, unwanted visitations and deep space travels may lead to inter-galactic wars. Of course, a war of this scale and magnitude spells the end of humanity because any species capable of making bold contact with mankind on planet earth are clearly an advanced civilisation whose weapons would make our nuclear bombs a child's play.

d. Mankind Versus Machine

Self-awareness and the new global super internet as well as superfast computing powers will enabling factors for machines to unite against man. Some of the dangers of this bionic AI advancement include mind-control, untraceable telepathic communication networks, machine-driven decision making etc.

When the machines become fully self-aware and more intelligent than man, they will want to rule the affairs of men, overrides will fail to reset these machines and the natural reaction of man will be rebellion. In a scenario where mankind will want to exterminate machines, self-defensive and pre-emptive strike actions are likely decisions that the machines powered by superfast computers and networks will take.

e. Unemployment

According to accountancy firm PwC, over 7 million jobs will be displaced by AI between 2017 and 2037.

Jobs involving customer service, driving, piloting, manufacturing assembly, teaching, farming etc will be largely replaced by machines. By computational extrapolation and also in recognition of Moore's Law, I estimate that by 2050, up to 45% of the global workforce will be replaced by machines powered by AI.

5. The Dangers of AI - Apocalypse of Mankind

f. Depleting Natural Resources, Pollution & Global Warming

Super-computing, simulations, predictive analysis and modelling powered by AI technology will greatly increase man's reach to untapped natural resources. The utilisation of already known resources will also increase. With the ever-growing human population, a time will surely come when these natural resources will no longer meet man's demand. Different forms of pollution are on continuous steady rise.

The indicators for this fast approaching time are clearly evident; for instance, global warming is very real – a reason for the widespread awareness on use of renewable energy. In a nutshell, AI will help with natural resource exploration which in turn will adversely affect the environment and potentially make earth an inhabitable planet for humans.

Conclusion

Synonymous to what Ben Rich of the legendary Skunkworks of Lockheed Martin said: "We already have the means to travel among the stars, but these technologies are locked up in black projects and it would take an act of God to ever get them out to benefit humanity.... Anything you can imagine, we already know how to do."; There are infinite possibilities to the uses and applications of artificial intelligence technology.

The debate of man versus intelligent machines will continue to go on for decades to come because this technology is fast becoming an integral part of our society and lifestyle. AI promises to propel and advance our civilisation with astronomical speeds and proportion; however, the dangers of man's possible apocalypse cannot be ignored.

Governance, fair-use, ethics and regulation will be important dimensions to ensure the continuous advancement, acceptance and positive utilisation of this awesome technology.

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