

## Artificial Intelligence, a Threat or a Blessing

Rachel Shinde

### Abstract

*Artificial Intelligence (AI) has gained popularity in recent times due to its exposure to the market and its usage on a commercial basis. There has been a tremendous development in the field of Artificial Intelligence that has helped us to adopt this technology in our daily lives. This technology has not only proved its usefulness in Computer Science but has taken over all the domains like Defense, Banking, Medical Diagnosis, Games, Astronomy, Space Exploration, Education etc. The purpose of the present study is to analyze the merits and demerits of Artificial Intelligence. The paper also highlights development of Artificial Intelligence in the contemporary era and its contribution for the betterment of human life or society. The success of any kind of technological innovations depends upon its awareness, its ethical use and its benefit for the improvement of society. This study will also help to understand concept and application of AI, historical development of AI and how the merits outweighs the demerits and the future Artificial Intelligence (AI) from the laymen perspectives*

**Keywords:** *Artificial Intelligence, Knowledge base, Artificial Narrow Intelligence, Artificial Super Intelligence, Artificial General Intelligence*

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### Introduction

In 2019, The International Data Corporation (IDC) has predicted that spending on Artificial Intelligence (AI) technologies would increase to \$97.9 billion by 2023. Ever since the COVID-19 pandemic hit the world, the potential value of AI has only grown. A survey published by the McKinsey State of AI in November 2020 suggested that at least half of the organisations have adopted AI functions in their organisation. Artificial Intelligence (AI) is an area of computer science that lays a foundation on which other technologies and applications can be

built. It is a development of computer systems that think and behave intelligently like humans. To make these systems, think and behave intelligently, information is fed into their Knowledge base (KB) and new data can infer using the Inference Engine. This new data can be used in strategic decision making. AI has enabled technological innovations, data-driven analysis, scientific breakthroughs, has optimized productivity and has improved medical diagnosis. The concept of AI has dated back to the Greek Mythology, in which Talos, a giant animated bronze warrior

was programmed to guard the island of Crete from the pirates. This mechanical device surveyed the island and protected it from sea invaders. This mythological story is assumed to be the inception of AI. Throughout the historical development of AI we have numerous scientists, scholars working on the technological development of AI. The notably work in AI began in 1940s and was called the Classical AI. The advances of classical AI had better computational search, computational logic, natural language. In the year 1943, Warren McCulloch & Walter Pitts published "A Logical Calculus of the Ideas Immanent in Nervous Activity" (1943) that laid the foundations for neural networks. This neural network model mimicked the working of biological neurons. The "Logical calculus" provided a compact mathematical model for understanding neural relationships laying the groundwork for neural network theory and automata theory, and forming the ur-foundation of modern computation (through John Von Neumann) and cybernetics. (Warren McCulloch, Walter Pitts). In 1950, one of the most notable experiment called the Turing test was conducted by Alan Turing who was an English Mathematician and Computer scientist known as Alan Turing. It was tests used to prove machine's intelligence by posing questions to it and to check whether the machine could answer them

intelligently just like humans. The modern history of AI began with the development of electronic computers. In the year 1956, the term AI was proposed at the Dartmouth conference, New Hampshire by John McCarthy. It was proposed that a two month study of AI would be carried out at the Dartmouth College (J. McCarthy et al). From here on there has been tremendous development in the field of AI. In 1965, Eliza the first chatbot was invented by Joseph Weizenbaum, the German computer scientist and Professor at Massachusetts Institute of Technology. Eliza was a rogerian psychotherapist chatbot that communicated using natural language.

The era 1974, saw the first AI winter. AI winter is the time period where the AI scientist received no funding from the US government for their research work. This lead to no technological development in the field of AI. The year 1980 saw the revival of AI, in which expert systems were introduced. Expert systems like MYCIN, XCON and Aaron were introduced. These expert systems helped the non-expert users to make intelligent decisions. Expert system consists of a KB, inference engine and a user interface. The decisions in important domains were made using the inference rules. Where operations like TELL and ASK were used. In 1987-1993, the AI scientist received another setback as the Expert

systems were not easy to maintain and was inefficient in solving larger problems. Also, the Expert system MYCIN never reached the production stages. This was the second AI winter. The year 1993 saw the emergence of intelligent agents. Intelligent agents are those systems that can perceive the environment using their sensors and act upon the environment using actuators. The much talked Deep Blue chess program won against the current world chess champion, Garry Kasparov, in a widely followed match and rematch. This was a notable achievement in the field of AI. These achievements in AI have led to many developments in AI that has proved to be beneficial to the world.

### **Concept Of Artificial Intelligence**

The term intelligence means the ability to learn from experiences, solve problems and use our knowledge to adapt to situations. Therefore Artificial intelligence is defined to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. (Jake Frankenfield). AI involves the development of computer system that exhibit traits of humans that involve visual perception using sensors or video camera, decision making, natural language translation and speech recognition. It involves systems that think and act rationally.

### **Categories Of Artificial Intelligence**

- Artificial Narrow Intelligence (ANI)

This type of intelligence is called Machine Learning, wherein a system learns based on patterns or what it is programmed to do. It can only do dedicated tasks with the help of human intelligence. This is the type of AI we deal in today's time. It works on a recommendation model. It involves recommending a product, weather forecasting etc.

- Artificial General Intelligence (AGI)

This type of intelligence refers to the ability of a machine to display intelligence that is not tied to a highly specific set of tasks. AGI enabled devices could perform any intellectual task with efficiency like a human. In AGI, the intelligent agents would have to understand, perceive its environment without any human help.

- Artificial Super Intelligence(ASI)

Super AI is a level of Intelligence in which machines could surpass human intelligence, and can perform any task better than human with cognitive properties. These machines are better at everything they do because of overwhelmingly

greater memory, faster data processing and analysis, and decision-making capabilities. It is an outcome of general AI. Some key characteristics of strong AI include capability include the ability to think, to reason, solve the puzzle, make judgments, plan, learn, and communicate by its own.

### **Statement of Problem**

Artificial Intelligence is widely being used in all domains but when we hear the word Artificial Intelligence, a comparison is made with assassin robots that would lead to an apocalypse. The present study will create awareness about AI and how it has brought a technological revolution in various sectors. This study will help the general public to understand the merits of AI and how by adopting this technology, it can add to accelerate the advancement of the country.

### **Objectives**

1. To create awareness about the merits of Artificial Intelligence
2. To provide detail information about Artificial Intelligence

### **Research Methodology**

The study is descriptive in nature. The study focuses on the impact of Artificial Intelligence in various sectors. The purpose of this study is to show the benefits of the AI technology. Secondary data has being used in this

study. Secondary data includes various research papers, journals, newspapers, web contents etc.

### **Applications of AI**

**AI In Defence:** The Uran-9 multipurpose unmanned ground combat vehicle was unveiled by Russian military equipment manufacturer JSC 766 UPTK during the Army-2016 International Military-Technical Forum held in Russia in September 2016. The vehicle is designed to provide remote reconnaissance and fire support to a variety of tasks conducted by the counter-terrorism, reconnaissance and military units in urban environments. Fitted with a variety of weapons and sensors, the robot will improve the combat effectiveness of the infantry squads, while offering maximum protection to the personnel. This unmanned ground combat vehicle helps to protect our soldier's life and to avoid loss of life.

Daksh is a battery-operated remote-controlled robot on wheels that was created with a primary function of bomb recovery. It designed and developed by the Indian state-owned Defence Research and Development Organisation (DRDO) at the Research and Development Establishment (Engineers), Pune, India it is fully automated. It can navigate staircases, negotiate steep slopes, navigate narrow corridors and tow vehicles to reach

hazardous materials. Using its robotized arm, it can lift a suspect object and scan it using its portable X-Ray device. If the object is a bomb, Daksh can defuse it with its water jet disrupter. ROV Daksh is equipped with multiple cameras, IED handling equipment, nuclear biological chemical (NBC) reconnaissance systems, a master control station (MCS) and a shotgun. This AI enabled device can be used instead of sending a manned bomb squad to assess any high risk object. Thereby saving lives.

**AI In Marine Industry:** Eye ROV is India's one of the fast-growing marine robotics start-up company providing Products and Solution for Underwater Inspections. Eye ROV TUNA is India's First Commercial Underwater Drone/Remotely Operated Vehicle (ROV). Eye ROV TUNA ROV has completed over 1000+ hours of operation doing an underwater inspection of Dams, Bridges, Ports, Offshore structures, Ship Hulls, Pipeline and other critical underwater structures. AI technology helps the marine industry to assess the underwater life, check for cracks in dams and checking the water levels during disasters.

**AI in Healthcare:** This technology has trained the software to detect lung problems using the computed tomography (CT) scans. Originally used to diagnose lung cancer the

software can also detect pneumonia associated with respiratory disease like Corona virus. The COVNET, a deep learning model can process 200-300 scans needed to diagnose Corona virus in 20-30seconds whereas the same operation would take an experienced doctor 10-15 minutes. AI in healthcare has helped the overwhelmed Medical infrastructure during the COVID-19 Pandemic. It has helped to give diagnosis faster.

AI technology is used in the Arogya Setu Application that helps in contact tracing. This application helps in recording details of the people that we have come in contact with and immediately notify us if anyone of them turns out to be positive for the novel Corona virus. It also notifies us which places are hotspot of the Corona virus. The Application needs Bluetooth support to give live updates. Not only does it gives us updates on Covid Hotspots but also helps in giving the citizen updates on Vaccination slots. This application requires user's details like name, age, email address etc. It takes in symptoms entered by the user and gives diagnosis based on user entries.

AI in health trackers help in detecting diseases at an early stage. It helps in early predictions of heart attacks. Many companies have AI based wearable's like Fitbit, Apple etc. These wearable's will monitor the

health of the person and display warnings when the device collects something unusual. The watch monitors the health of the individual, collects data such as heart rate, sleeping cycle, breathing rate, activity level, blood pressure etc. These AI enabled devices help in giving early warnings that can help save a person's life.

**AI in Banking:** AI technology helps in detecting fraudulent banking transaction and unauthorized access. The machine learning algorithm helps in identifying a transaction made by an unauthorized person. An OTP/notification are sent to the authorized user in order to identify the potential threat. Other than passwords, AI technology involves facial recognition and fingerprint scanner, these technologies make it difficult for the intruder to intercept the device. Many banking industry have adopted AI- based chatbots that provide 24x7 customer support.

### **Future Implications of AI**

The future of Artificial Intelligence lies in our hands. With sufficient research and laws implemented, the negative impact of AI can be prevented. When this technology is ethically used, it can add as a boon to the technological advancement of the country. With 5G network emerging, the faster download rate and larger bandwidth will help AI to analyze,

assess huge amount of data and better predictions and decisions can be made. With AI, manual labor will be reduced and will boast productivity. AI and automation will also help to eliminate disease, with better disease prevention, effective treatment and cures and accurate diagnosis.

### **Conclusion**

There is no right or wrong, good or bad when it comes to the topic of AI. Every coin has its two sides. A fact worth mentioning is that AI improves with time. AI is meant to Make Lives Better. All the issues related to the threats can be tackled if we make a global framework of rule and regulations which has to be followed while developing AI. The technology can be considered as a tool to assist us to rise above our circumstances. We will need to be equipped skills-wise and knowledge-wise. Every new invention or breakthrough will have both, the good and the bad but we as humans need to take care of that and use the positive sides of the invention to create a better world. In today's time AI enabled devices are more of a necessity than a luxury. When we look at it from the advancement point of view and how the society benefits from the AI technology the merits, outweighs the demerits. This paper offers to look at the positive impact of the technology.



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