



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

## AWARENESS AND PERCEPTION OF ARTIFICIAL INTELLIGENCE

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**Abstract:** This research study will investigate the awareness and perception of AI among the general public. The study will use a survey to collect data on people's understanding of AI, their attitudes towards AI, and their concerns about AI. The results of the study will be used to develop strategies to improve public awareness and understanding of AI. The study will be conducted in two phases. In the first phase, a survey will be developed and administered to a sample of the general public. The survey will collect data on people's understanding of AI, their attitudes towards AI, and their concerns about AI. In the second phase, the data from the survey will be analysed and the results will be reported. The results of this study will provide valuable insights into the awareness and perception of AI among the general public. The results will be used to develop strategies to improve public awareness and understanding of AI. This will help to ensure that AI is used in a safe and responsible manner.

**Index Terms - Artificial Intelligence, Awareness and perception of AI, Data analysis.**

### I. INTRODUCTION

Artificial Intelligence (AI), the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience. Since the development of the digital computer in the 1940s, it has been demonstrated that computers can be programmed to carry out very complex tasks.

Artificial intelligence (AI) is the ability of a computer or a robot controlled by a computer to do tasks that are usually done by humans because they require human intelligence and discernment. Although there are no AIs that can perform the wide variety of tasks an ordinary human can do, some AIs can match humans in specific tasks. The earliest successful AI program was written in 1951 by Christopher Strachey, later director of the Programming Research Group at the University of Oxford. Strachey's checkers (draughts) program ran on the Ferranti Mark I computer at the University of Manchester, England. By the summer of 1952 this program could play a complete game of checkers at a reasonable speed.

The first AI program to run in the United States also was a checkers program, written in 1952 by Arthur Samuel for the prototype of the IBM 701. Samuel took over the essentials of Strachey's checkers program and over a period of years considerably extended it. In 1955 he added features that enabled the program to learn from

experience. Samuel included mechanisms for both rote learning and generalization, enhancements that eventually led to his program's winning one game against a former Connecticut checkers champion in 1962. A leading proponent of evolutionary computing, John Holland, also wrote test software for the prototype of the IBM 701 computer. In particular, he helped design a neural-network "virtual" rat that could be trained to navigate through a maze. This work convinced Holland of the efficacy of the bottom-up approach. While continuing to consult for IBM, Holland moved to the University of Michigan in 1952 to pursue a doctorate in mathematics. He soon switched, however, to a new interdisciplinary program in computers and information processing (later known as communications science) created by Arthur Burks, one of the builders of ENIAC and its successor EDVAC. In his 1959 dissertation, for most likely the world's first computer science Ph.D., Holland proposed a new type of computer—a multiprocessor computer—that would assign each artificial neuron in a network to a separate processor. (Copeland, 2023)

### Here's a brief timeline of the past six decades of how AI evolved from its inception.

- 1956 - John McCarthy coined the term 'artificial intelligence' and had the first AI conference.
- 1969 - Shakey was the first general-purpose mobile robot built. It is now able to do things with a purpose vs. just a list of instructions.
- 1997 - Supercomputer 'Deep Blue' was designed, and it defeated the world champion chess player in a match. It was a massive milestone by IBM to create this large computer.
- 2002 - The first commercially successful robotic vacuum cleaner was created.
- 2005 - 2019 - Today, we have speech recognition, robotic process automation (RPA), a dancing robot, smart homes, and other innovations make their debut.
- 2020 - Baidu releases the Linear Fold AI algorithm to medical and scientific and medical teams developing a vaccine during the early stages of the SARS-CoV-2 (COVID-19) pandemic. The algorithm can predict the RNA sequence of the virus in only 27 seconds, which is 120 times faster than other methods.

### Types of Artificial Intelligence.

**1. Purely Reactive** - These machines do not have any memory or data to work with, specializing in just one field of work. For example, in a chess game, the machine observes the moves and makes the best possible decision to win.

**2. Limited Memory** - These machines collect previous data and continue adding it to their memory. They have enough memory or experience to make proper decisions, but memory is minimal. For example, this machine can suggest a restaurant based on the location data that has been gathered.

**3. Theory of Mind** - This kind of AI can understand thoughts and emotions, as well as interact socially. However, a machine based on this type is yet to be built.

**4. Self-Aware** - Self-aware machines are the future generation of these new technologies. They will be intelligent, sentient, and conscious.

## II. REVIEW OF LITERATURE

- **(Kaur, 2019):** The main aim of this research paper is to understand the awareness level about artificial intelligence. The result shows there is no significance difference towards awareness level of AI in education system among the students.
- **(Yeh, Wu, Wu, & Kuo, 2021): Purpose:** This study designed a survey to collect 1018 samples of educated people with access to the internet in Taiwan regarding their perceptions of AI and its connections to the Sustainable Development Goals (SDGs). To understand the characteristics of people's perceptions toward AI technology, we designed a survey to investigate their knowledge, behaviour/skill, and affection/attitude connected to AI. In addition, their cognized linkages of AI and each of the SDGs were also included in the survey. , it would be one of the pioneer studies concerning AI and each of the SDGs based on a survey of the general public.
- **(Dergunova, Aubakirova, Yelmuratova, & university, 2022):** Purpose of the research: the aim of this research is to determine the opinions of the students of the engineering faculty of the university on artificial intelligence materials. In order to determine the opinions of 98 students studying in the engineering department at the university, their knowledge about the concepts of intelligence and mind was first tested. As a result of the findings of the students regarding the concept of intelligence and mind, it was concluded that they did not know these two concepts exactly. Students' different opinions may indicate that they have insufficient knowledge in these two areas.
- **(K A , Gonzaga, & Francis, 2021):** The study titled "A Study on The Awareness of Artificial Intelligence on Youth and Its Impact on Employment" aims to study more about the impact of Artificial Intelligence on society, the employment market and educational sector and its level of awareness among youth. According to the analysis, the majority of companies have started to demand more technology-based abilities, and the majority of respondents believe that the growth of artificial intelligence threatens their careers and have a bad opinion of it. The majority of young people believe that AI would negatively affect jobs. Because low skilled jobs have a higher possibility of being replaced by artificial intelligence than high skilled professions, it is clear from the secondary data analysis that low skilled jobs are at a higher danger. The IT industry is the one most impacted by artificial intelligence, followed by business and e-commerce. Artificial intelligence is the intelligence in machines, it enables them to act like humans. But it lacks the natural intelligence displayed by humans, which involves consciousness and emotionality.
- **(Keles & Aydam, 2021):** The aim of this study was to determine the perceptions of university students about the concept of artificial intelligence. When the results obtained from this study were examined, it was determined that artificial intelligence perceptions of the students of the Faculty of Education were richer than the students of the Faculty of Economics and Administrative Sciences and the Faculty of Arts and Sciences.
- **(Chheda & Vilecha, 2023):** The main objectives of this research are to define Self-Awareness in humans and to enlist different ways that can be used by Artificial intelligence to help humans obtain self-awareness. Technology has advanced a lot and this advancing technology has provided users

various opportunities to grow their self-awareness. With the help of Artificial Intelligence, one can achieve wonders and make life smooth as glass. This research paper tried to provide certain ways through which Artificial Intelligence powered devices can actually help the user in becoming more and more self-aware.

- **(Syed & Basil, 2023):** This study aimed to evaluate Awareness, Perceptions, and Opinions towards Artificial intelligence (AI) among pharmacy undergraduate students at King Saud University. In conclusion, the current findings revealed that pharmacy students at a Saudi university in Riyadh appeared to have positive perceptions, awareness, and good opinions towards AI and its use in the healthcare setting. Our results suggested that students must be aware of the new technologies in healthcare such as AI and its progress and its implications.

### III. SCOPE OF THE STUDY

The scope of a study on the awareness and perception of artificial intelligence (AI) involves examining the general public's understanding of AI concepts and its applications. It includes assessing public opinions, attitudes, and concerns towards AI technologies, as well as exploring ethical considerations such as privacy, bias, and accountability. The study also investigates factors influencing trust and acceptance of AI, evaluates the impact of AI on society, analyses the role of media in shaping public awareness, and considers cross-cultural perspectives. Additionally, the study assesses the effectiveness of communication and educational initiatives, while anticipating future trends and developments in AI awareness and perception. The goal is to provide insights for policy-making, address knowledge gaps, and promote responsible integration of AI into society.

### IV. OBJECTIVES OF THE STUDY

- To assess the level of awareness among individuals regarding artificial intelligence and its applications in various domains.
- To explore the perceptions and attitudes of individuals towards artificial intelligence, including their beliefs, opinions, and expectations.
- To examine the relationship between knowledge or awareness of artificial intelligence and its perceived benefits, risks, and ethical implications.
- To investigate the impact of awareness and perception of artificial intelligence on individuals' willingness to adopt AI technologies in personal and professional contexts.

### V. RESEARCH METHODOLOGY

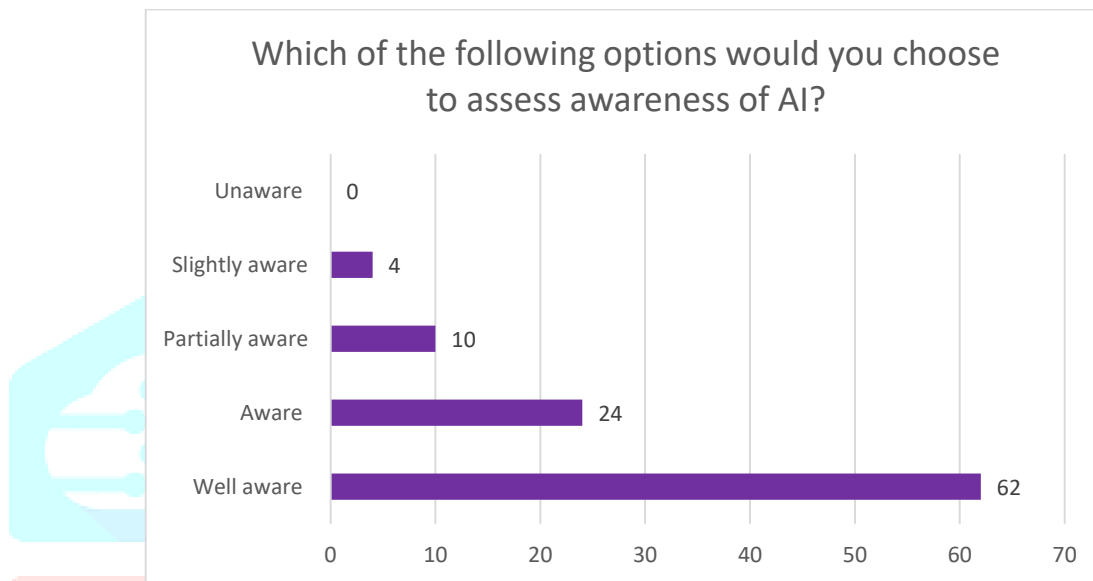
The study utilizes a descriptive research approach, aiming to provide a comprehensive depiction of the situation of phenomenon under investigation. The research design focus on describing and understanding the awareness and perception of artificial intelligence. To gather data, the survey method is employed, specifically targeting individual by utilizing surveys, the study aims to collect response from this particular group and gain insights into their perspectives regarding AI. Data for the study is collected from both primary and secondary sources.

The primary data is obtained through a structured questionnaire administered to 100 respondents in Bengaluru city. Convenience sampling technique is used to select the sample, ensuring representation from diverse demographic profiles such as gender, age, education and occupation. On the other hand, secondary data is collected from various sources including the internet, website, research journals and publications.

## VI. RESULTS AND DISCUSSION

The data collected is represented in the form of bar chart. A brief description of analysis and interpretation is given below.

**Figure 1: Which of the following options would you choose to assess awareness of AI?**

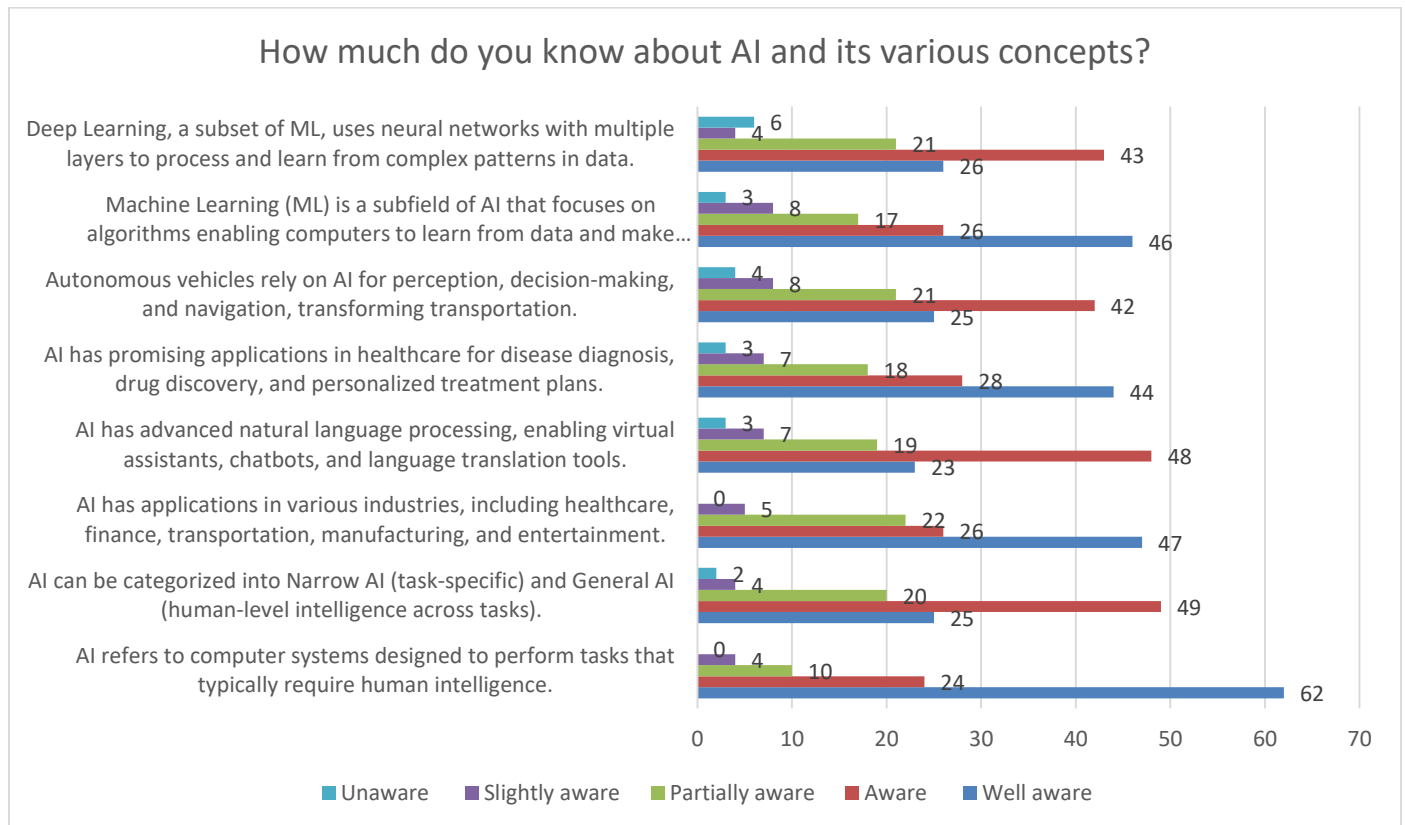


### Interpretations:

The above chart shows the percentage of people who would choose to assess awareness of AI by using the following options:

- 1. Well aware: 62% 2. Aware: 24% 3. Partially aware: 10% 4. Slightly aware: 4% 5. Unaware: 0%

The total number of responses is 100. The most common option is "well aware," followed by "aware" and "partially aware." The least common option is "unaware." This data suggests that a significant number of people are aware of AI, but there is still room for improvement. The most common option, "well aware," suggests that people have knowledge of AI, but they may not be fully understanding of its capabilities. The "aware" option suggests that people are aware of AI in the context of the internet, but they may not be aware of its broader applications. Overall, the data suggests that there is a growing awareness of AI, but there is still work to be done to educate people about its capabilities and potential applications.

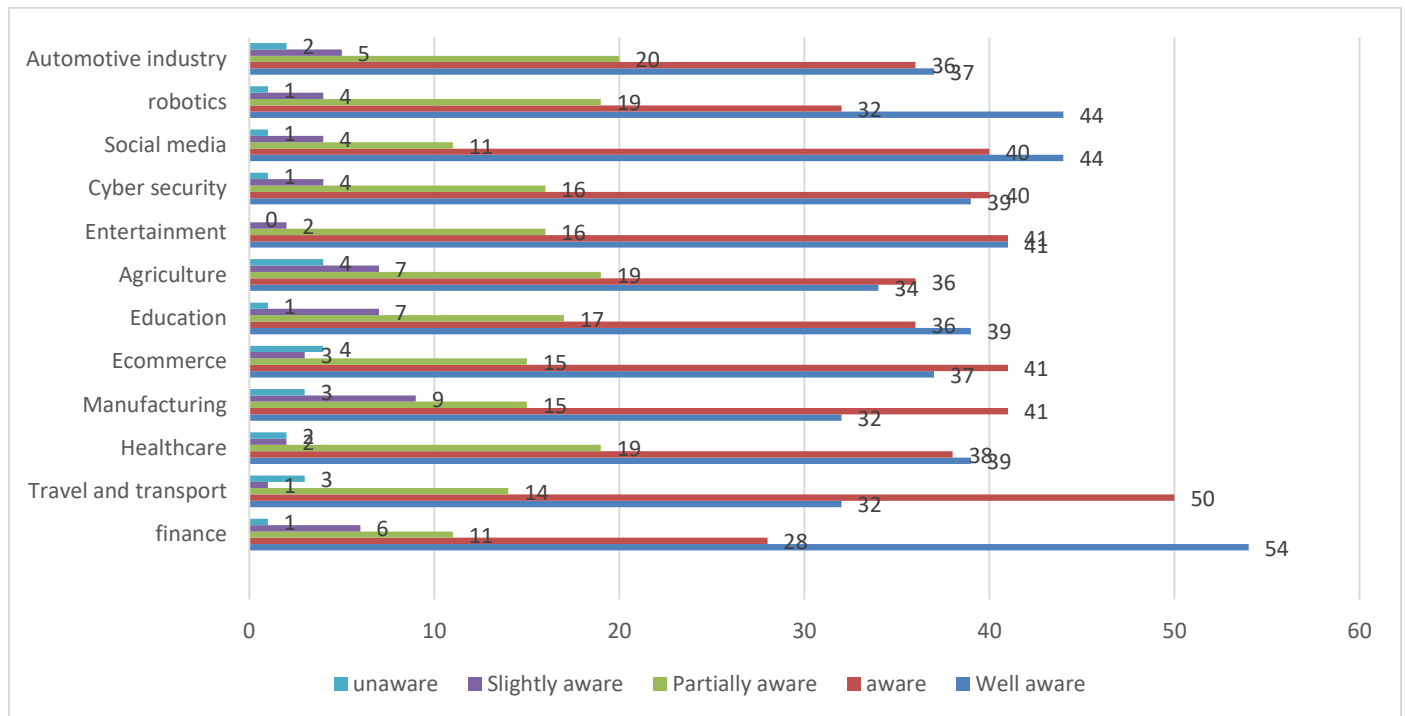
**Figure 2: How much do you know about AI and its various concepts?****Interpretations:**

Here is a more detailed analysis of the data in the chart:

- AI refers to computer systems designed to perform tasks that typically require human intelligence: This concept is known by 62% of people. This suggests that most people have a basic understanding of what AI is and what it can do.
- AI can be categorized into Narrow AI (task-specific) and General AI (human-level intelligence across tasks): This concept is known by 25% of people. This suggests that a smaller proportion of people have a deeper understanding of the different types of AI.
- AI has applications in various industries including healthcare, finance, transportation, manufacturing, and entertainment: This concept is known by 44% of people. This suggests that most people are aware of the potential applications of AI in different industries.
- AI has advanced natural language processing, enabling virtual assistants, chatbots, and language translation tools: This concept is known by 42% of people. This suggests that most people are aware of the ways in which AI is being used to improve natural language processing.
- AI has promising applications in healthcare for disease diagnosis, drug discovery, and personalized treatment plans: This concept is known by 26% of people. This suggests that a smaller proportion of people are aware of the potential applications of AI in healthcare.
- Autonomous vehicles rely on AI for perception, decision-making, and navigation, transforming transportation: This concept is known by 23% of people. This suggests that a smaller proportion of people are aware of the potential of AI to transform transportation.

- Machine Learning (ML) is a subfield of AI that focuses on algorithms enabling computers to learn from data and make predictions or decisions: This concept is known by 28% of people. This suggests that a smaller proportion of people are aware of the subfield of AI known as machine learning.
- Deep Learning, a subset of ML, uses neural networks with multiple layers to process and learn from complex patterns in data: This concept is known by 21% of people. This suggests that the least proportion of people are aware of the subset of machine learning known as deep learning. Overall, the table shows that there is a general awareness of AI and its various concepts. However, there is still some room for improvement, as there are a few concepts that are not as widely known.

**Figure 3: What is your knowledge regarding the sector that utilize AI ?**



### Interpretations:

The chart shows that the sector with the highest level of awareness of AI is finance, with 54% of people being well aware of AI's applications in the sector. The sector with the lowest level of awareness of AI is agriculture, with only 34% of people being well aware of AI's applications in the sector.

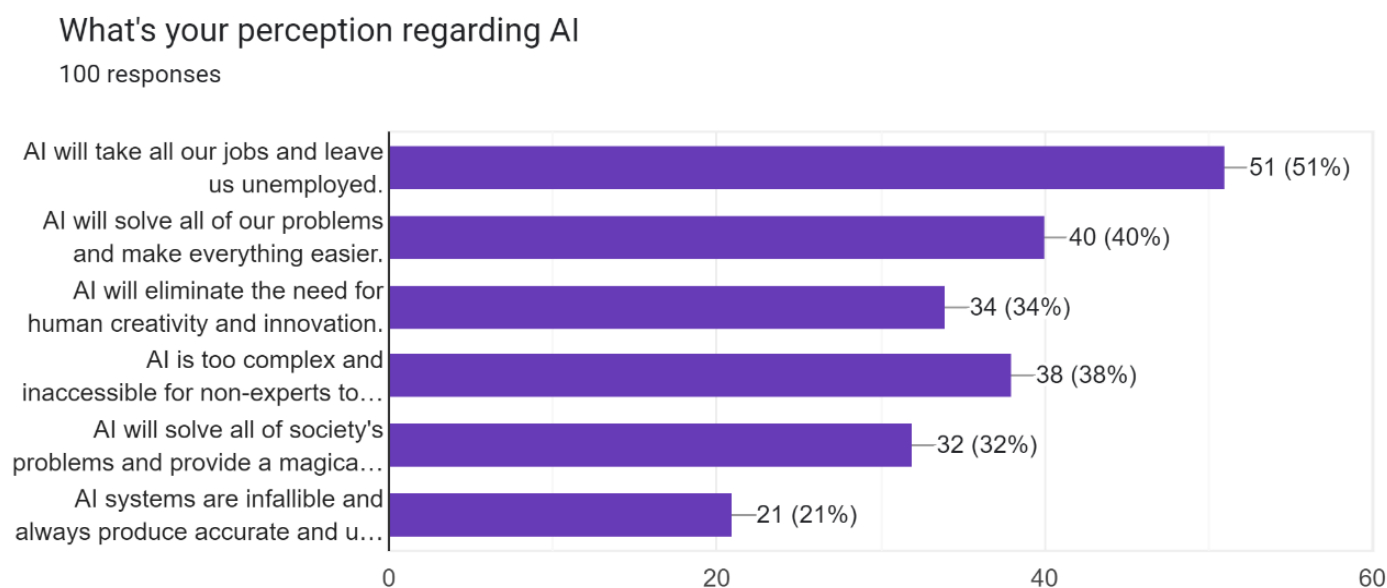
Here is a more detailed analysis of the data in the chart:

- Finance: This sector has the highest level of awareness of AI, with 54% of people being well aware of AI's applications in the sector. This is likely due to the fact that AI is already being used in a wide variety of ways in the financial sector, such as for fraud detection, risk assessment, and algorithmic trading.
- Travel and transport: This sector have the second highest level of awareness of AI, with 32% of people being well aware of AI's applications in the sector. This is likely due to the fact that AI is being used in a growing number of ways in the travel and transportation sector, such as for self-driving cars, passenger assistance, and baggage handling.
- Healthcare: This sector has the third highest level of awareness of AI, with 39% of people being well aware of AI's applications in the sector. This is likely due to the fact that AI is being used in a variety

of ways in the healthcare sector, such as for medical diagnosis, drug discovery, and personalized treatment plans.

- **Manufacturing:** This sector has the fourth highest level of awareness of AI, with 32% of people being well aware of AI's applications in the sector. This is likely due to the fact that AI is being used in a growing number of ways in the manufacturing sector, such as for quality control, predictive maintenance, and supply chain management.
- **Other sectors:** The other sectors in the table have a lower level of awareness of AI. This is likely due to the fact that AI is not yet being used as widely in these sectors.

**Figure 4: What's your perception regarding AI?**



### Interpretations:

The graph shows that the most common belief about AI is that it will take our job and leave employed. This is followed by the belief that AI will solve all of our problems and make everything easier. The least common belief about AI is that AI systems are infallible and always produce accurate and unbiased results.

Here is a more detailed analysis of the data in the graph:

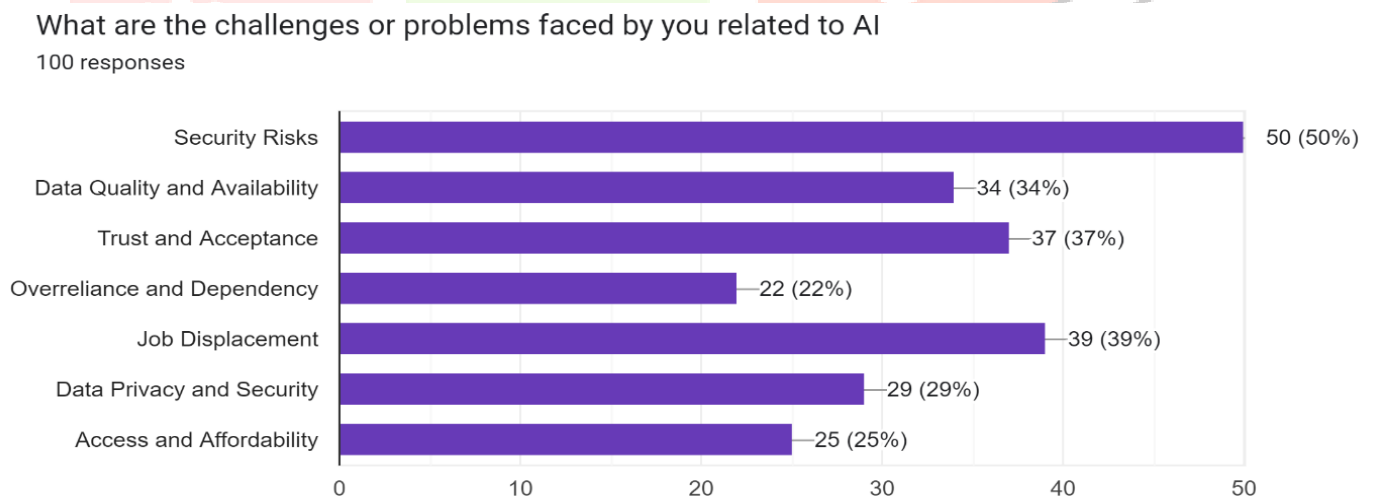
- **AI will take our job and leave unemployed:** This is the most common belief about AI, with 51% of people believing this. It is still too early to say for sure what the impact of AI will be on employment. However, it is clear that AI is already having an impact on the job market.
- **AI will solve all of our problems and make everything easier:** This is the most common belief about AI, with 40% of people believing this. This belief is likely due to the fact that AI has the potential to automate many tasks and make our lives more efficient. However, it is important to note that AI is not a magic bullet, and it will not solve all of our problems.
- **AI will eliminate the need for human creativity and innovation:** This is the second most common belief about AI, with 34% of people believing this. This belief is likely due to the fact that AI is becoming increasingly sophisticated and capable of performing tasks that were once thought to be the exclusive domain of humans. However, it is important to note that AI is still a tool, and it is up to humans to decide how to use it.



- AI is too complex and inaccessible for non-experts to understand: This is the third most common belief about AI, with 38% of people believing this. This belief is likely due to the fact that AI is a complex technology, and it can be difficult for non-experts to understand how it works. However, there are a growing number of resources available to help people learn about AI, and it is becoming more accessible to everyone.
- AI will solve all of society's problems and provide a magical solution: This is the fourth most common belief about AI, with 32% of people believing this. This belief is likely due to the fact that AI has the potential to solve some of the world's most pressing problems, such as climate change and poverty. However, it is important to note that AI is not a silver bullet, and it will not solve all of society's problems.
- AI systems are infallible and always produce accurate and unbiased results: This is the least common belief about AI, with only 21% of people believing this. This belief is likely due to the fact that AI systems are still under development, and they can make mistakes. Additionally, AI systems can be biased, depending on the data they are trained on.

Overall, the graph shows that there is a range of beliefs about AI. Some people believe that AI will be a force for good in society, while others believe that it will pose a threat. It is important to note that these are just beliefs, and it is still too early to say what the true impact of AI will be on society.'

**Figure 5: What are the challenges or problems faced by you related to AI?**



### Interpretations:

Here is a more detailed analysis of the data in the graph:

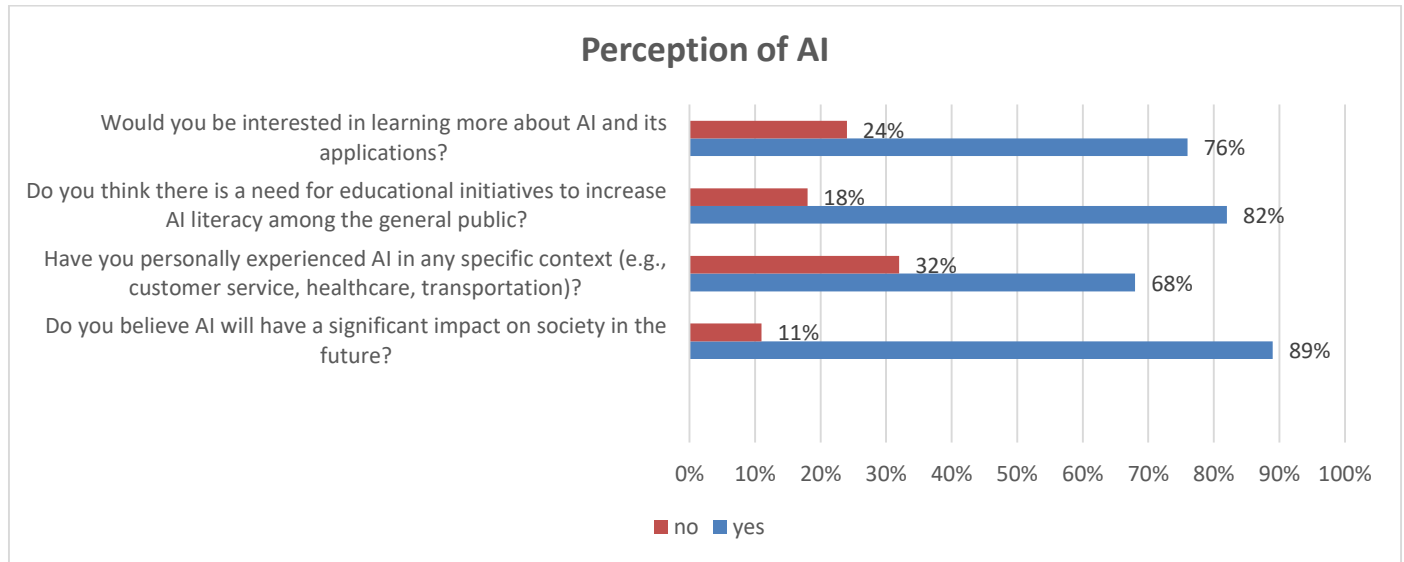
- Security risks: This is the most common challenge faced by people related to AI, with 50% of people having faced it. This is likely due to the fact that AI systems can be vulnerable to cyberattacks, which could lead to the theft of personal data or the disruption of critical infrastructure.
- Data quality and availability: This is the second most common challenge faced by people related to AI, with 34% of people having faced it. This is likely due to the fact that AI systems require large

amounts of high-quality data to train and operate effectively. However, the quality and availability of data can vary, which can impact the performance of AI systems.

- **Trust and acceptance:** This is the third most common challenge faced by people related to AI, with 37% of people having faced it. This is likely due to the fact that AI systems are still relatively new, and people may not fully understand how they work or how they can be used. Additionally, there is some concern that AI systems could be used to discriminate against certain groups of people.
- **Over reliance and dependency:** This is the fourth most common challenge faced by people related to AI, with 22% of people having faced it. This is likely due to the fact that AI systems are becoming increasingly sophisticated and capable of performing tasks that were once thought to be the exclusive domain of humans. However, this could lead to people becoming too reliant on AI systems, which could have negative consequences if the systems fail or are hacked.
- **Job displacement:** This is the fifth most common challenge faced by people related to AI, with 39% of people having faced it. This is likely due to the fact that AI systems are capable of automating many tasks that are currently performed by humans. This could lead to job losses in some sectors, but it could also create new jobs in other sectors.
- **Data privacy and security:** This is the sixth most common challenge faced by people related to AI, with 29% of people having faced it. This is likely due to the fact that AI systems collect and process large amounts of personal data. This data could be used to track people's movements, monitor their online activity, or even predict their future behaviour. This raises concerns about privacy and security, as people may not want their personal data to be used in this way.
- **Access and affordability:** This is the least common challenge faced by people related to AI, with only 25% of people having faced it. This is likely due to the fact that AI technology is becoming increasingly affordable, and it is becoming more accessible to people from all walks of life.

Overall, the data shows that there are a number of challenges faced by people related to AI. These challenges are important to be aware of, as they can impact the way that AI is used and developed.

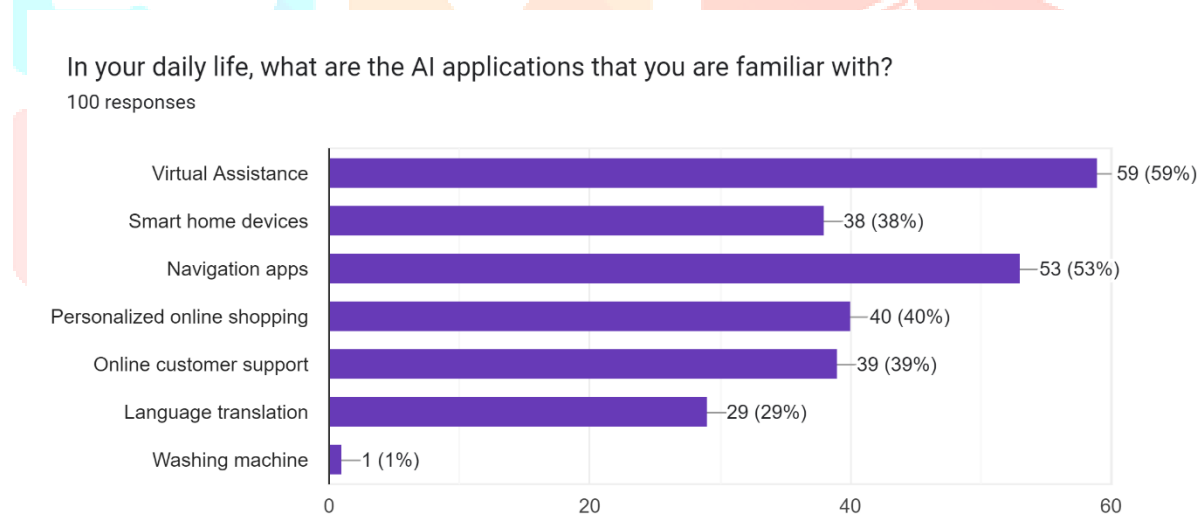
**Figure 6: Perception of AI.**



**Interpretations:**

The table shows that a majority of people believe that AI will have a significant impact on society in the future and some have experienced AI in some way, and that there is a strong desire for educational initiatives to increase AI literacy. Additionally, most people are interested in learning more about AI and its applications.

**Figure 6: What AI Applications you are familiar with?**



**Interpretations:**

The graph also shows that there is a significant difference in the level of familiarity with AI applications between different age groups. For example, 72% of people aged 18-29 are familiar with virtual assistants, compared to only 44% of people aged 65+. Here is a more detailed analysis of the data:

- **Virtual assistants:** Virtual assistants are the most popular AI application, with 59% of people being familiar with them. This is likely due to the fact that virtual assistants are becoming increasingly integrated into our lives. For example, virtual assistants can be used to control smart home devices, make appointments, and even order food.
- **Smart home devices:** Smart home devices are the second most popular AI application, with 38% of people being familiar with them. This is likely due to the fact that smart home devices are becoming

more affordable and accessible. For example, smart speakers and thermostats are now commonplace in many homes.

- **Personalized online shopping:** Personalized online shopping is the third most popular AI application, with 40% of people being familiar with it. This is likely due to the fact that personalized online shopping can help people to find products that are more relevant to their interests. For example, Amazon uses AI to recommend products to customers based on their past purchases and browsing history.
- **Online customer support:** Online customer support is the fourth most popular AI application, with 39% of people being familiar with it. This is likely due to the fact that online customer support can be more convenient and efficient than traditional customer support methods. For example, many companies now offer chatbots that can answer customer questions and resolve issues.
- **Language translation:** Language translation is the fifth most popular AI application, with 29% of people being familiar with it. This is likely due to the fact that language translation can be useful for people who travel or who need to communicate with people who speak other languages. For example, Google Translate is a popular language translation app that can be used to translate text, speech, and images between over 100 languages.
- **Washing machine:** out of 100 responses only 1% is aware that AI is also used in washing machines its just because Some washing machine manufacturers may not be actively advertising the fact that their machines use AI.

Overall, the graph shows that there is a growing awareness of AI applications among the general public. This is likely due to the fact that AI is becoming increasingly integrated into our lives. As AI technology continues to develop, it is likely that we will see even more widespread adoption of AI applications in the future.

## VII. FINDINGS OF THE STUDY

People have a general understanding of what AI is, but there are still some misconceptions. For example, some people may believe that AI is sentient or that it will eventually surpass human intelligence and also they have a range of attitudes towards AI, from positive to negative. Some people are excited about the potential benefits of AI, while others are concerned about the potential risks. People have a number of concerns about AI, including privacy, security, and job displacement.

They are also concerned about the potential for AI to be used for malicious purposes. There is a lack of transparency about how AI is being used in the products and services we use. This lack of transparency can lead to concerns about privacy and security. There is a need for more education and awareness about AI. This will help people to understand the potential benefits and risks of AI, and to make informed decisions about its use.

## VIII. LIMITATIONS OF THE STUDY

- The study may not capture the full range of people's experiences with AI: For example, the study may only focus on people who have used AI-powered products and services, and may not consider people who have not had any direct experience with AI.
- The study may not be sensitive to the different ways in which people use language to talk about AI: For example, some people may use positive language to describe AI, even if they have concerns about it. Others may use negative language to describe AI, even if they believe that it has the potential to be beneficial.
- The study may not be able to capture the nuances of people's understanding of AI: For example, people may have different understandings of what AI is, how it works, and what its potential benefits and risks are.

Overall, it is important to be aware of the limitations of any study on the awareness and perception of AI. These limitations should be considered when interpreting the results of the study

## IX. CONCLUSION

The research on the awareness and perception of artificial intelligence (AI) is a complex and ongoing field. As AI becomes increasingly integrated into our lives, it is essential to understand how people understand and perceive AI. There is a growing body of research that suggests that people have a general understanding of what AI is, but they may not be aware of the specific ways in which it is being used. People also have a variety of attitudes towards AI, ranging from excitement to fear. Some people believe that AI has the potential to solve many of the world's problems, while others are concerned about the potential for AI to be used for malicious purposes. There is also a lack of transparency about how AI is being used in the products and services we use. This lack of transparency can make it difficult for people to understand how AI is affecting their lives and to make informed decisions about how to use AI. The results of this research suggest that there is a need for more public awareness and understanding of AI. This awareness and understanding can help to ensure that AI is used in a safe and responsible manner.

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