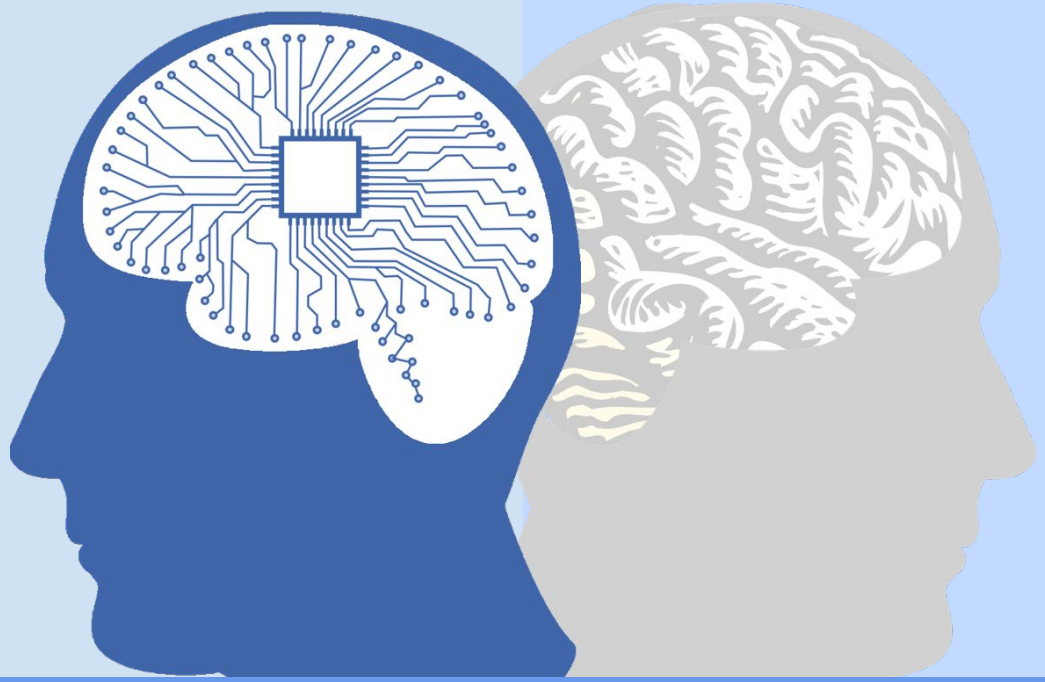
HOW WILL A.I. CHANGE OUR LIVES?



HOW WILL A.I. CHANGE OUR LIVES?

A WHOLE OTHER WORLD

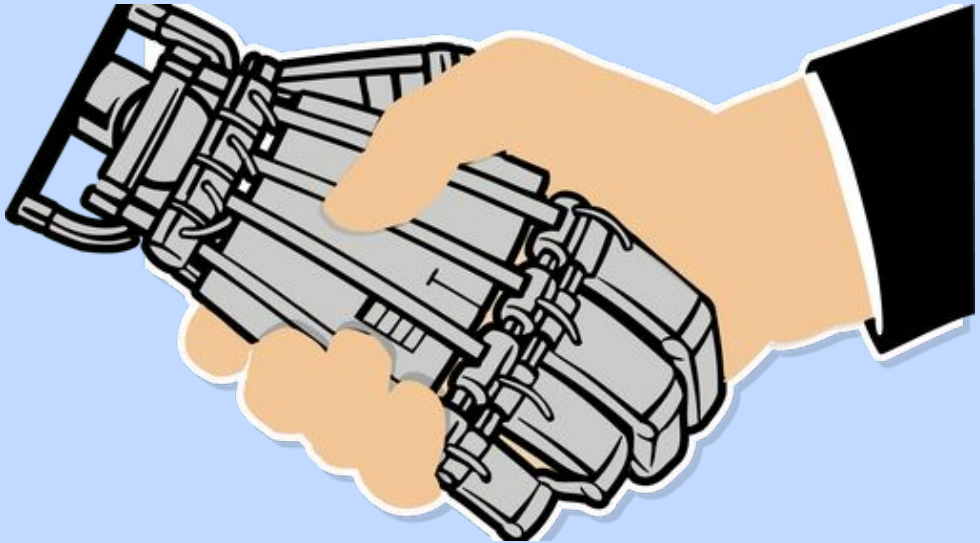
By: Isabelle Gu, Lillian Perriello, and Erin Tan

OVERVIEW

WHAT IS AI?

- The development of AI and its changes
- AI's impact on life today
- Examples of AI and its uses:
  - Medical Field
  - Watson
- Pros vs Cons

WHAT IS AI?

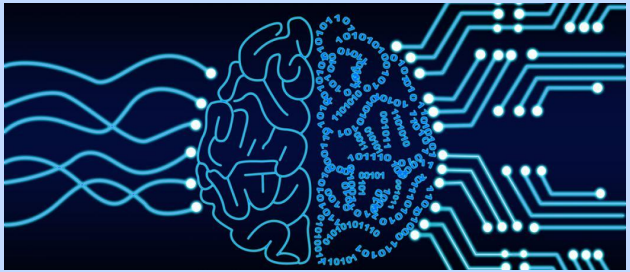


What is AI?

AI is an abbreviation of the words Artificial Intelligence

Artificial Intelligence is a branch of computer science dealing with the simulation of intelligent behavior (such as learning, problem solving, and reasoning) in computers/machines.

- John McCarthy was the first person who coined the term artificial intelligence.



What is considered AI?

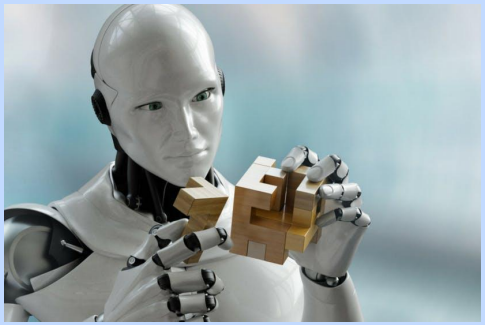
AI are machines that have the ability to perform actions that require intelligence.

AI:

- Has the ability to learn
- Is capable of simulating thinking

Machine:

- Is only capable of performing what it is programmed to do.



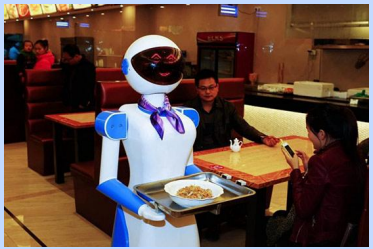
Weak vs Strong AI

Weak AI: can only respond to specific or a narrow group of situations with intelligence. It can replicate some of human intelligence.

Examples: Siri, Alexa, robot waiter, and manufacturing robots.

Strong AI: when a machine can think and perform just like a human.

Examples: None at this time



AI'S ADVANCEMENT THROUGH THE YEARS

AI's Advancement Through the Years

1950 Alan Turing proposed the "Turing Test" as a measure of machine intelligence.

1955 The creation of The Logic Theorist was designed by Newell and Simon. It is considered to be the first AI program.

1956 The term artificial intelligence is first used in The Dartmouth College summer AI conference.

1964 Danny Bobrow's showed that computers can understand natural language well enough to solve algebra word problems correctly.

1971 Terry Winograd demonstrated the ability of computers to understand English sentences with a robot arm that carried out instructions typed in English.

AI's Advancement Through the Years

1997 The Deep Blue chess machine from IBM defeats the world chess champion, Garry Kasparov.

2004 NASA's robotic exploration rover Spirit and Opportunity autonomously navigate the surface of Mars.

AI's Advancement Through the Years

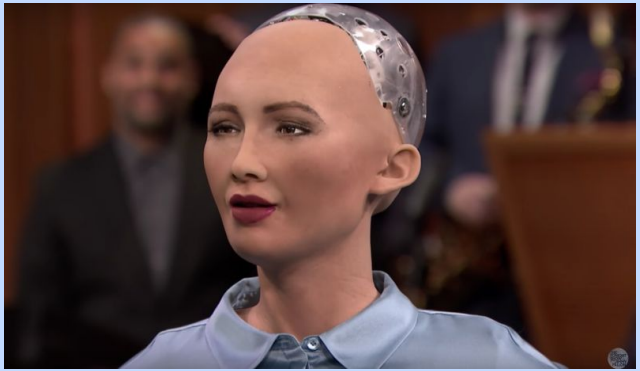
2005 Honda's ASIMO robot, a humanoid robot, is able to walk as fast as a human and combat obstacles such as staircases.

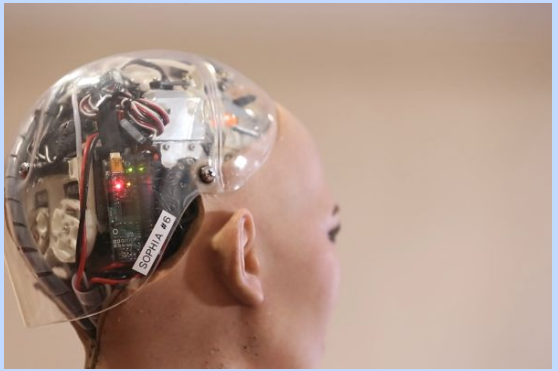
2011 IBM's Watson computer defeated Jeopardy!'s champions Rutter and Jennings

AI's Advancement Through the Years

2011-2014 Smartphone assistants, such as Siri, use natural language to answer questions asked by the user.

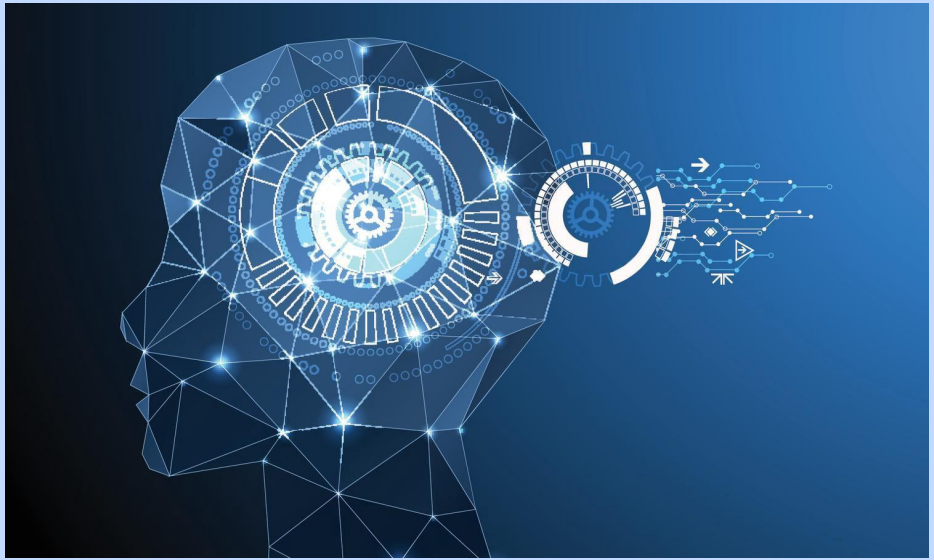
2015 Sophia the humanoid robot was activated. She is capable of following faces, recognizing individuals, and holding conversations with humans by processing speech. In 2018, she was upgraded and now has the ability to walk.





While AI has advanced exponentially through the years, we can still expect more discoveries in the future

AI'S IMPACT ON LIFE TODAY



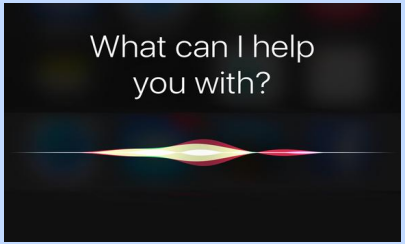
AI's Impact on Life Today

Digital Personal Assistance:

Devices such as **Alexa** and **Google Home** and features such as **Siri** are all examples of AI.

- They use advanced machine learning technologies in order to properly function, such as answering questions and performing simple tasks.

Apps such as **Spotify** and **Netflix** also have AI implemented into them. These apps are able to learn and make future recommendations based on your activity.



AI's Impact on Life Today

Health Care:

- Currently, health professionals have to review great amounts of data manually before they diagnose or treat a patient.
- Deep learning platforms with high-performance computing and graphic processing units do the following:
  - Quickly provide real-time insights
  - Help healthcare professionals diagnose patients faster and more accurately
  - Develop innovative new drugs and treatments
  - Reduce medical and diagnostic errors
  - Predict adverse reactions
  - Lower the costs of healthcare for providers and patients

AI's Impact on Life Today

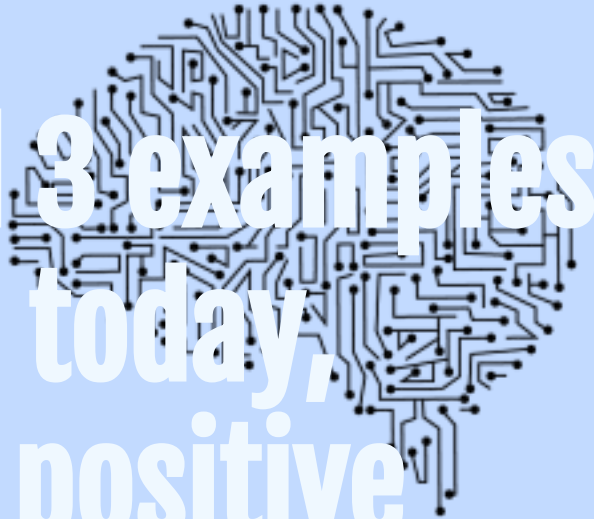
Financial Services:

People who work in finance need to derive insights from their data. Artificial Intelligence can help them streamline operations, improve product offerings, and enhance customer experiences.

AI can also maintain:

- Customer and client satisfaction
- React to market trends
- Calculate risk through datasets and spending patterns.

While we just showed 3 examples of how AI impacts life today, there are many more positive and negative ways AI affects life.



AI & THE MEDICAL FIELD

AI & the Medical Field

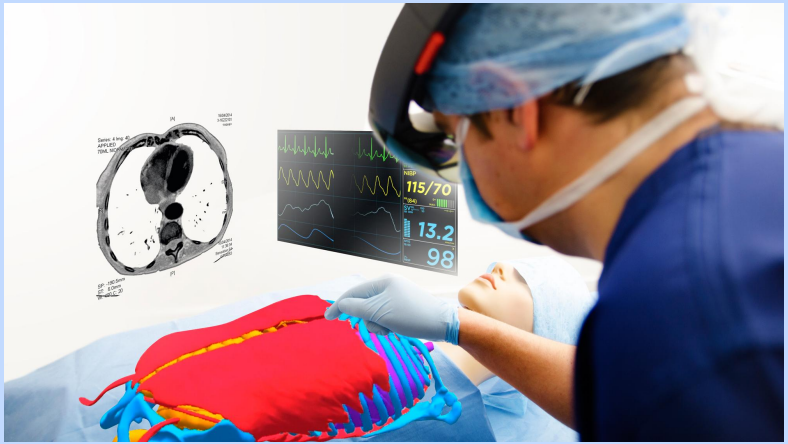
Artificial Intelligence can be used to greatly benefit the medical field. With new technology, it has helped save countless lives.

Some examples:

- It can help diagnose patients quickly by undertaking a large multitude of information and processing it.
- AI can be used in operating rooms:
  - AI can provide the surgery team a live time stream of what is happening inside the patient's body (via a camera).

AI & the Medical Field

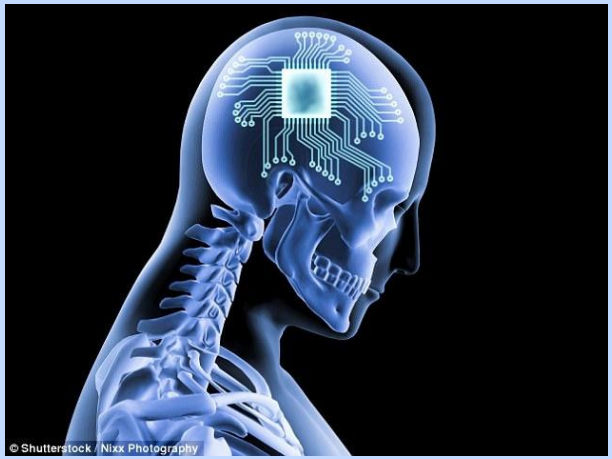
- It can supply the surgeon with a “road map” helping them navigate what is happening internally.
- The artificial intelligence machines will help lessen the amount of complications that happen in surgeries and guide surgeons to more efficient operations.



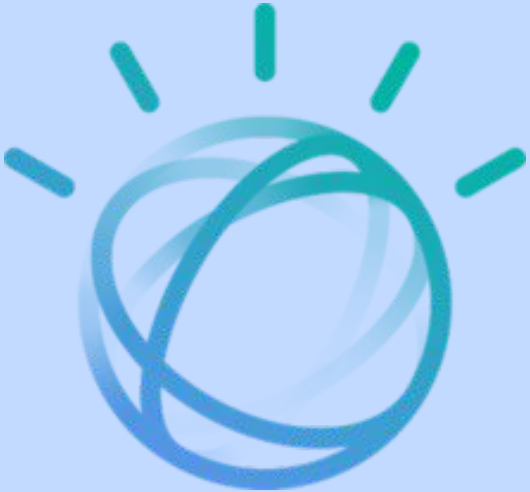
The Future of AI Controlled Brain Implants

- Researchers are starting to use neural implants attached to the human brain that are controlled with AI. The implants send electrical shocks to certain parts of the brain.
- The implants have the possibility to solve a range of problems such as:
  - Mood disorders (chronic depression)
  - Parkinson's disease (dyskinesia)

In the future, we can expect more advances in AI, further benefiting people and the medical field.

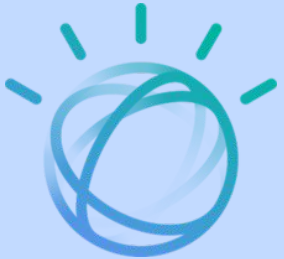


WATSON



Watson

Watson is a question answering computer system capable of answering questions posed in natural language. Its sources of information include encyclopedias, dictionaries, and thesauruses.



- Watson was first introduced in the year of 2010
- Developed by IBM
- Named after IBM's first CEO, Thomas J. Watson
- Like many systems, Watson uses machine learning,
- Initially developed to answer questions on the Quiz show Jeopardy
- **February 2013**: Announced that Watson's system's first commercial application would be for utilization management decisions in lung cancer treatment.

Watson

Watson's Uses:

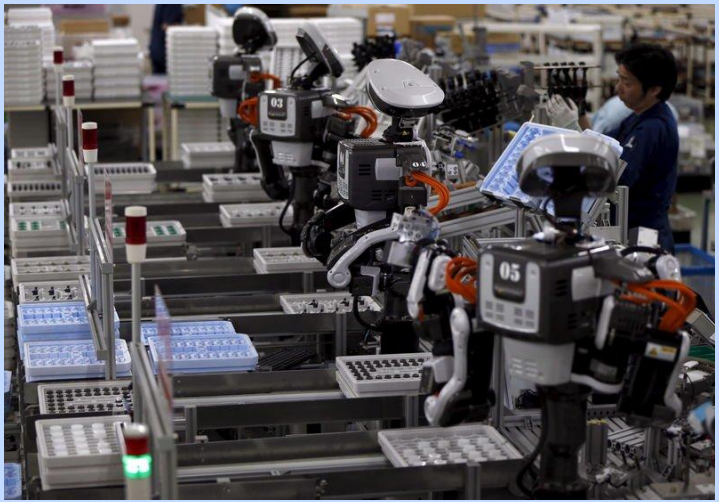
- Used in healthcare.
- Used via IBM's partner program as a chatterbot to provide the conversation for children's toys
- Used for several projects relating to education and has partnerships with multiple companies, including Apple
- Also being used for weather forecasting
    - Analyzes data from over 200,000 personal weather stations, and data from other sources.

IS AI HERE FOR THE GOOD?

PROS

Tedious Tasks:

Having AI powered machines can improve the overall rate and workforce of a company or business. It can perform tasks continuously and learn from different situations.



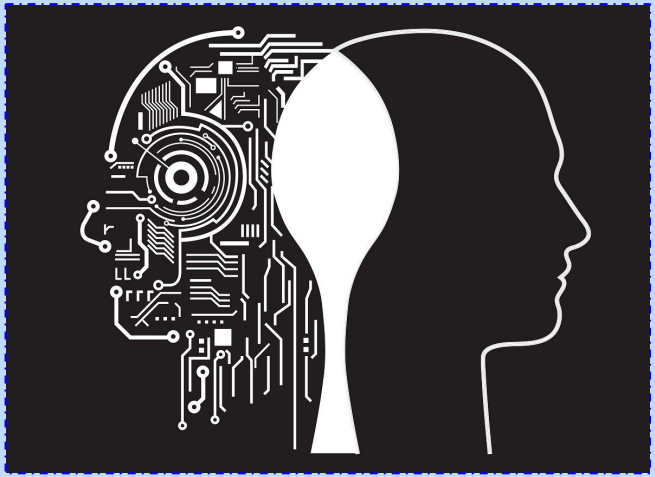
Dangerous Areas:

AI powered machines can perform jobs that are simply too dangerous for people to execute.

- For example, AI is extremely helpful in exploring new areas. The Mars rover Curiosity is currently roaming over Mars to examine its landscape and gather information.

“Error-Free” Performance:

Because machines are less likely to make mistakes, they are an ideal option for many jobs. AI can often perform better than humans in certain areas. It can improve accuracy and decrease the risk of error.

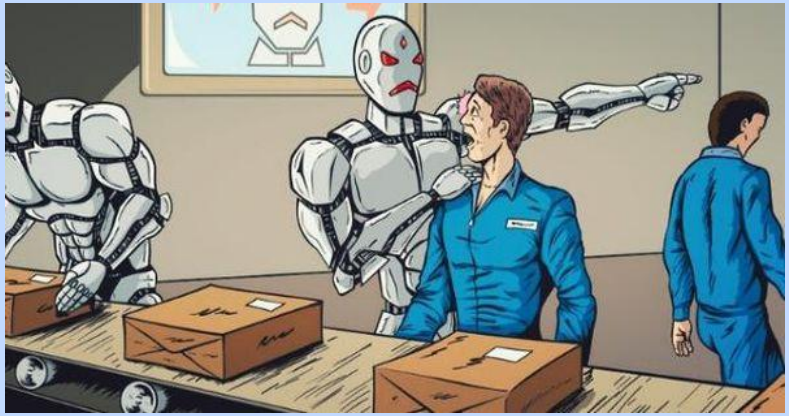


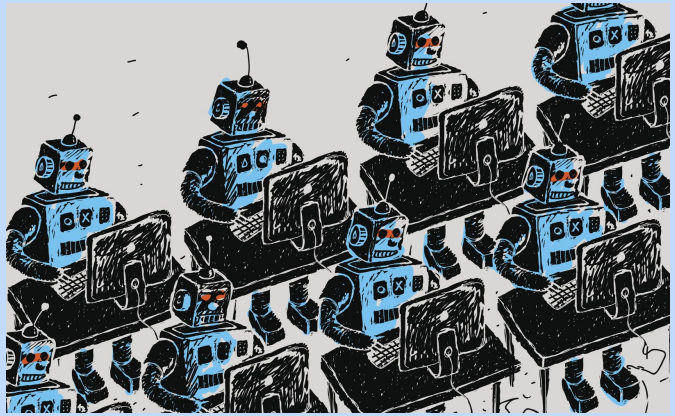
CONS

Job Loss:

As access to AI is increasing, it is becoming more desirable due to its benefits financial and performance wise.

- Many people fear that they may lose their jobs to machines in the future.
  - This raises the strongly debated question on whether AI is actually here to help people.

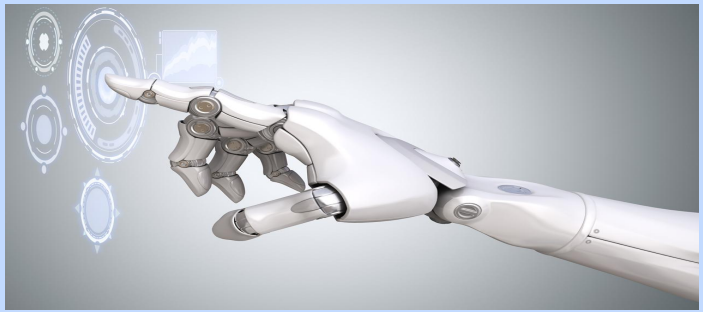




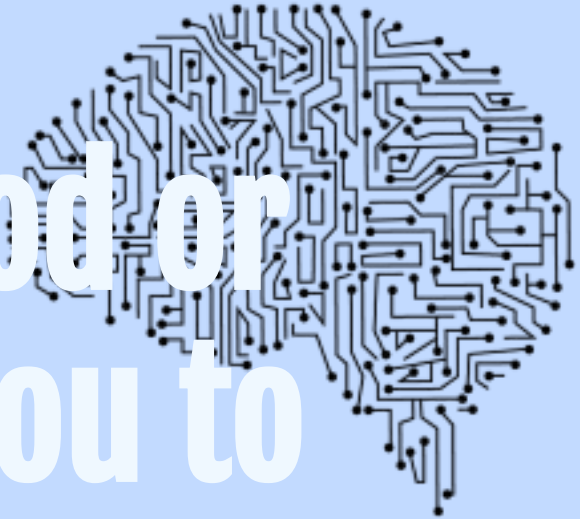
Lack of Judgement:

Currently, Artificial Intelligence doesn't have the ability to make a judgement call, which can be a problem.

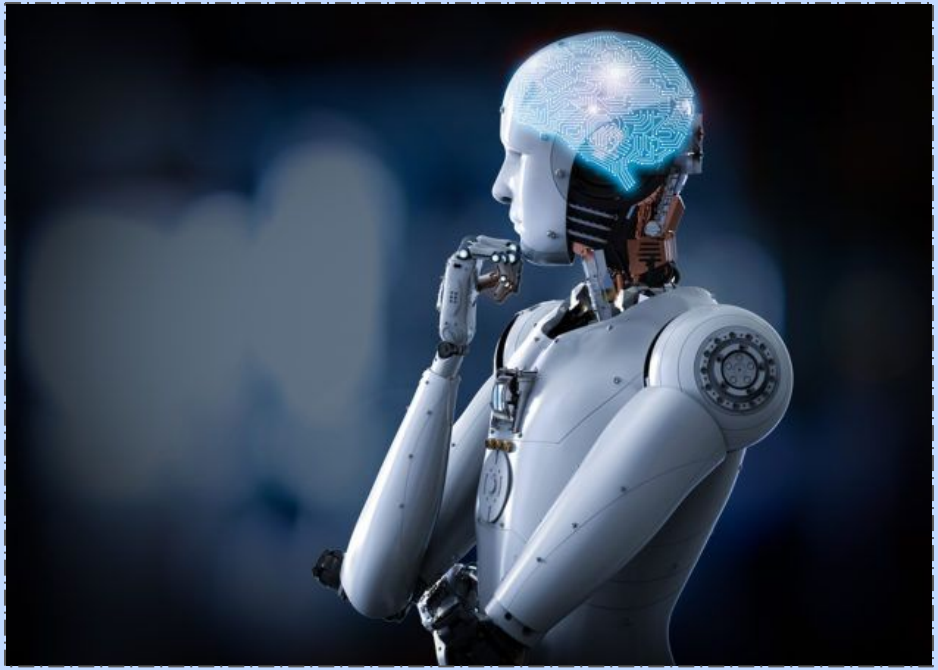
- In 2014 a shooting in an area prompted people to make many calls to Uber in hope to escape.
  - Uber's ride rates surged based on its supply and demand algorithm, causing it to fail.
  - In result, there was no consideration involved for the circumstances in which the riders found themselves in



Whether AI is good or not, it's up for you to decide.



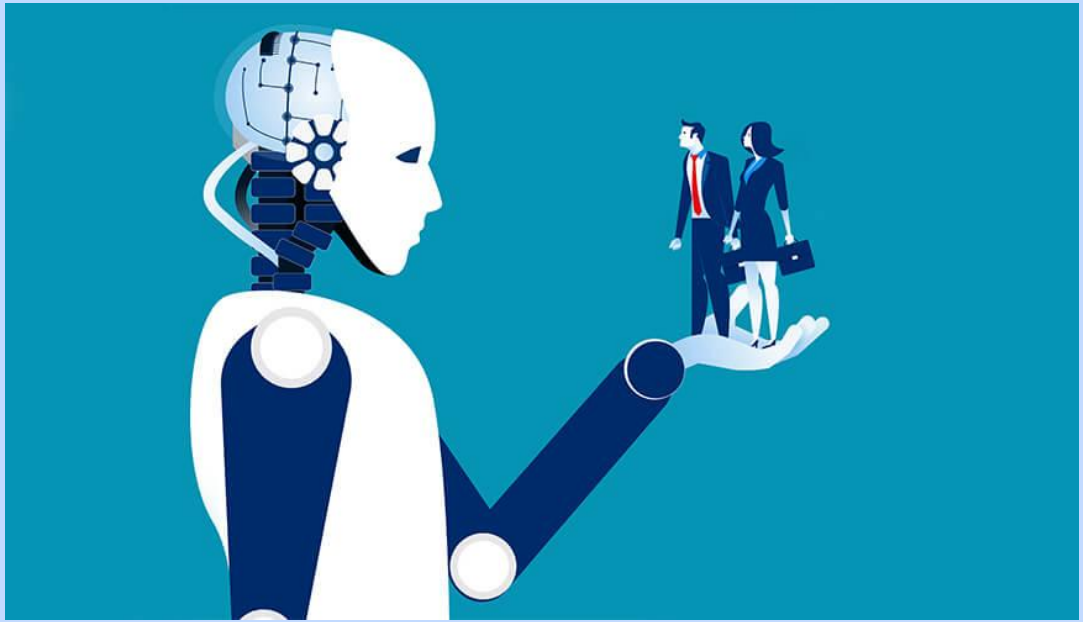
AI IN ACTION



Sophia, the robot, taking its first step

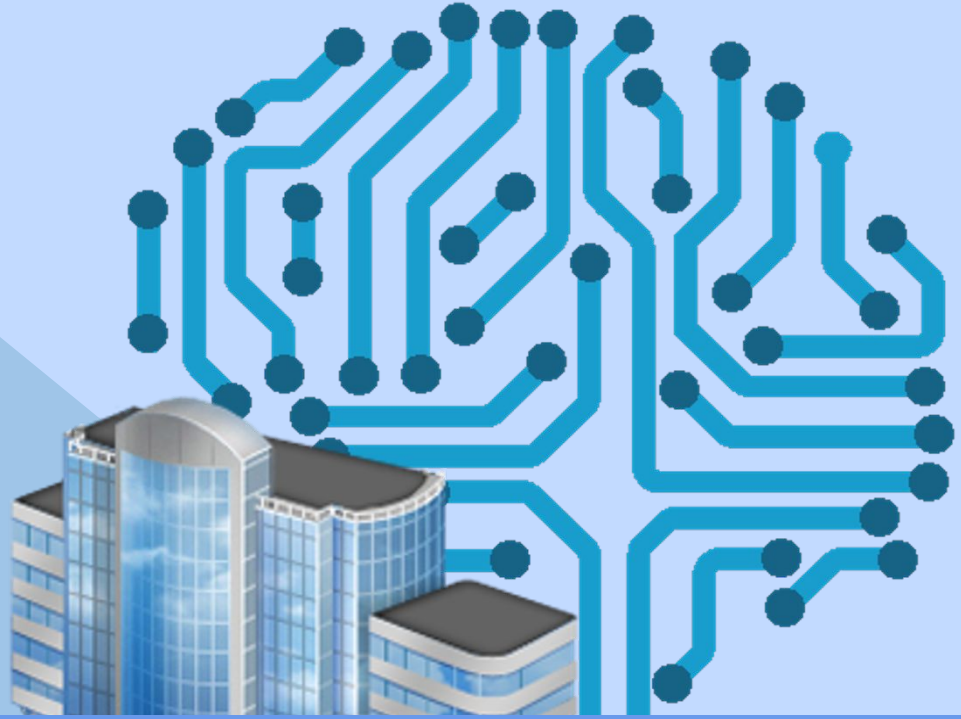
Asimo playing around

CONCLUSION



Conclusion

- AI stand for Artificial Intelligence and is the simulation of intelligent behavior in machines
- There are two types of AI, weak AI and strong AI
- AI impacts life in ways we have never realized before
- The connection between AI and medicine is constantly improving
- The pros and cons of AI
- What AI looks like in action



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