# AI and the modern world

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## What Does Artificial Intelligence (AI) Mean?

Artificial intelligence (AI) is a field of computing sciences that concentrates on developing and operating technology that has the ability to learn how to make decisions and perform activities independently on behalf of humans.[1]

## The brief history of Al.

➤ In 1943 a relationship between computing machines & the brain was founded for neural nets [4] https://digitalwellbeing.org/artificialintelligence-timeline-infographic-from-elizato-tay-and-beyond/

## A.I. TIMELINE











1950

### **TURING TEST**

Computer scientist Alan Turing proposes a intelligence' is coined test for machine intelligence. If a machine can trick humans into thinking it is human, then it has intelligence

1955

### A.I. BORN

Term 'artificial by computer scientist, John McCarthy to describe "the science and engineering of making intelligent machines"

1961

### UNIMATE

First industrial robot, Unimate, goes to work at GM replacing humans on the assembly line

1964

### ELIZA

Pioneering chatbot developed by Joseph Weizenbaum at MIT holds conversations with humans

1966

### SHAKEY

The 'first electronic person' from Stanford. Shakey is a generalpurpose mobile robot that reasons about its own actions

## A.I.

## **WINTER**

Many false starts and dead-ends leave A.I. out in the cold

## 1997

### **DEEP BLUE**

Deep Blue, a chessplaying computer from introduces KISmet, an champion Garry Kasparov

1998

### KISMET

Cynthia Breazeal at MIT IBM defeats world chess emotionally intelligent robot insofar as it detects and responds to people's feelings

















1999

### AIBO

Sony launches first consumer robot pet dog autonomous robotic AiBO (Al robot) with skills and personality

2002

### ROOMBA

First mass produced vacuum cleaner from iRobot learns to navigate interface, into the that develop over time and clean homes

2011

Apple integrates Siri, an intelligent virtual assistant with a voice iPhone 4S

2011

### WATSON

IBM's question answering computer Watson wins first place on popular \$1M prize television auiz show Jeopardy

2014

## EUGENE

Eugene Goostman, a chatbot passes the Turing Test with a third of judges believing Eugene is human

2014

### ALEXA

Amazon launches Alexa, Microsoft's chatbot Tay an intelligent virtual assistant with a voice interface that completes inflammatory and shopping tasks

2016

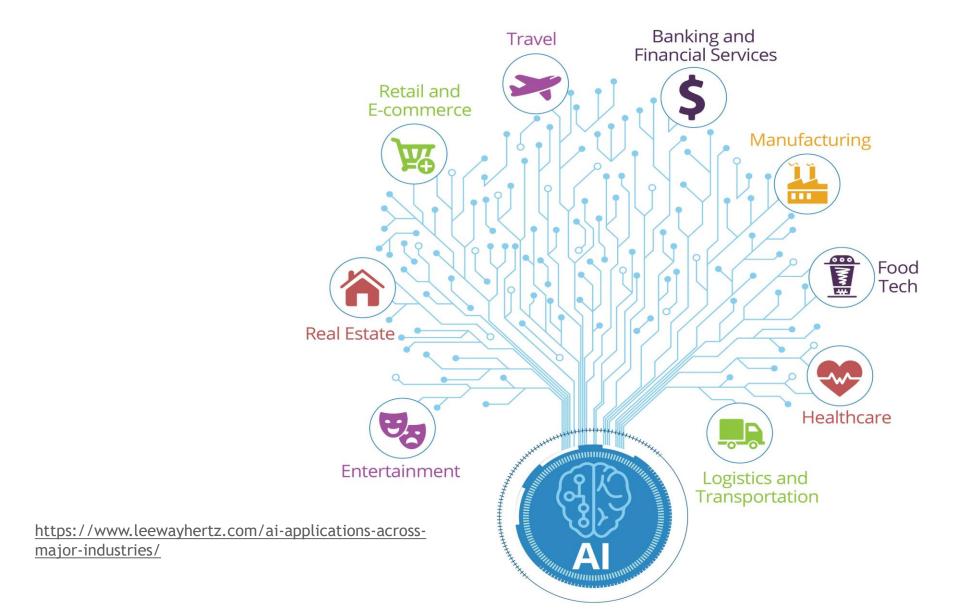
goes roque on social media making offensive racist comments

2017

### ALPHAGO

Google's A.I. AlphaGo beats world champion Ke Jie in the complex board game of Go, notable for its vast number (2170) of possible positions

## Al applications and industries.



## Top-down and bottom-up approaches of Al.

- ➤ AI uses two primary approaches to mimic human thinking: top-down AI and bottom-up AI.[2]
- The top-down technique is defined as splitting large issues into smaller, easier-to-solve difficulties. It depends on symbols or rules and also is built on prior experience (hence the symbolic classification).[2]

➤ The bottom-up strategy integrates basic models and systems which accumulate to construct more sophisticated ones, relying on adaptability and more natural behavior. Bottom-up AI aims to create systems that are similar to those found in the human mind.[2]

## Top-down and bottom-up approaches of Al.

- ➤ We can discover a solution to equations or problems using two methods. We may either solve the issue in our brain by comparing it to prior info or we could just let the equation give the variables to us without any further context.[2]
- The first is a top-down strategy, which is preferred by individuals who want to utilize prior information to create their views. When engaging with high operations like neuro-linguistic processing, this strategy suggests a concentration on logic, organization, and data.[2]
- ➤ The bottom-up method, on the other hand, is founded on the idea that progression should be independent of motivation. What we perceive is what generates our perception. This approach refers to dynamic functioning and is better suited to lower-level tasks like speech recognition.[2]

## Social Impact of Al

- ➤ With autonomous mobility and AI affecting our traffic jam concerns, as well as the numerous manners it will boost on-the-job efficiency, society would earn thousands of hours of productive output. Humans will be free to devote their time to a multitude of activities now that they are no longer bound by uncomfortable journeys.[5]
- ➤ AI will improve our ability to detect illegal activities and resolve cases. Facial identification technologies are becoming as widespread as fingerprints. The employment of AI in the legal systems also opens up a lot of possibilities for figuring out how to make the technology work without invading people's privacy.[5]

## Technical Impact of Al

- ➤ **Reduction in Human Errors**: AI robots are programmed to follow instructions and are devoid of emotions. As a result, nothing can interrupt them. AI Robots do jobs with a 99.9% precision that humans simply cannot reach. AI Robots perform analysis of data and basic calculations with a high level of precision.[6]
- ➤ Enhanced Speed: AI Robots, machinery, and computers all operate at high rates of speed. So, one of several motivations to use artificial intelligence technologies is to speed up data processing. [6]

## Political Impact of Al

- Employing an AI politician in a position of authority above humans, expecting it to be smarter and more capable than humans. Isn't a smart idea because this machine has no awareness of breathing or bleeding.[7]
- As a political impact of AI, the software is required that has the ability to distinguish between truth and perspective, then make its own forecasts, in conjunction with a strategy capacity that understands the terms of interaction.[7]

## Philosophical Impact of AI

- According to a statistic, technology will replace 75 million employment globally in the near future. On the other hand, it will generate 130 million new employment that does not exist now.[8]
- ➤ Thanks to technology, 60% of today's children will work in occupations that do not exist now, newly established occupations that we do not know about.[8]

## References

- 1) <u>https://www.techopedia.com/definition/190/artificial-intelligence-ai</u>
- 2) <a href="https://blog.riamoneytransfer.com/en/ai-bottom-up-turing-test/">https://blog.riamoneytransfer.com/en/ai-bottom-up-turing-test/</a>
- 3) <a href="https://www.leewayhertz.com/ai-applications-across-major-industries/">https://www.leewayhertz.com/ai-applications-across-major-industries/</a>
- 4) <a href="https://digitalwellbeing.org/artificial-intelligence-timeline-infographic-from-eliza-to-tay-and-beyond/">https://digitalwellbeing.org/artificial-intelligence-timeline-infographic-from-eliza-to-tay-and-beyond/</a>
- 5) <a href="https://bernardmarr.com/what-is-the-impact-of-artificial-intelligence-ai-on-society/">https://bernardmarr.com/what-is-the-impact-of-artificial-intelligence-ai-on-society/</a>
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- 7) <a href="https://www.verdict.co.uk/pros-and-cons-of-ai/">https://www.verdict.co.uk/pros-and-cons-of-ai/</a>
- 8) <a href="https://www.youtube.com/watch?v=2cPu1g\_NBLU">https://www.youtube.com/watch?v=2cPu1g\_NBLU</a>