

# **Artificial Intelligence (AI)**

## **Group I**

- a. Background to AI- What is AI? Its use and its impact.**
- b. AI & impact on future jobs and lifestyles under 4<sup>th</sup> Industrial revolution.**

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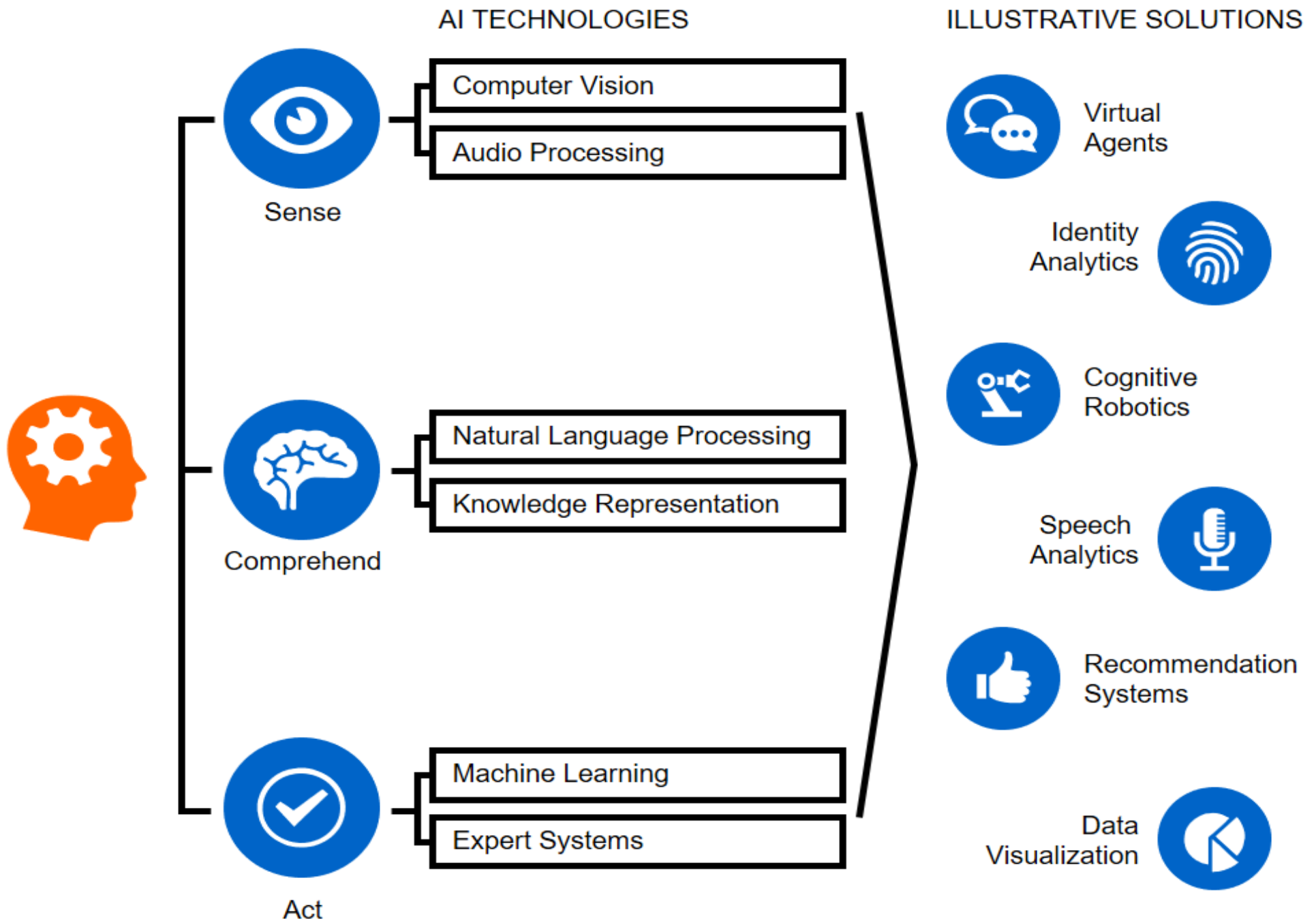
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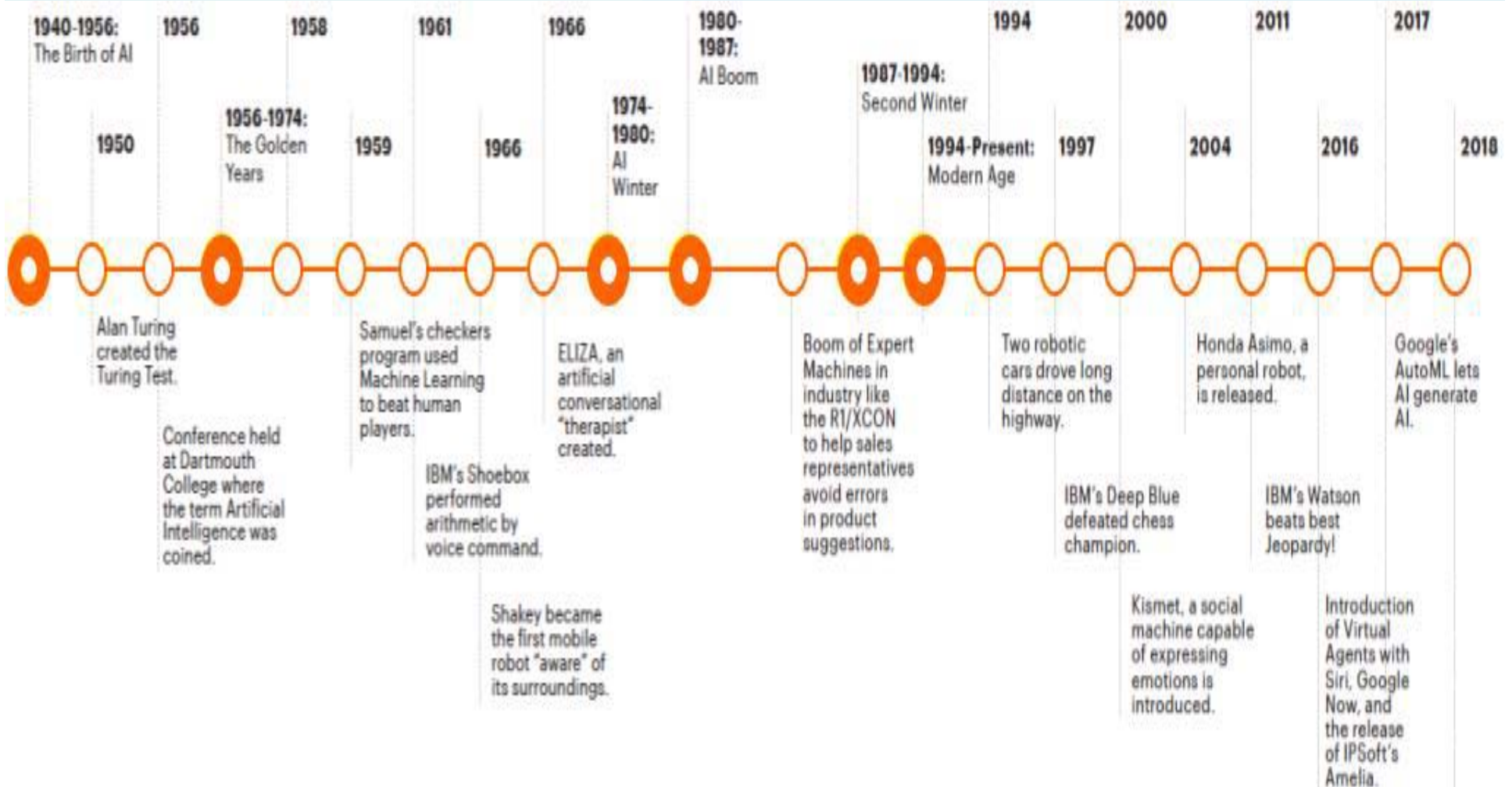
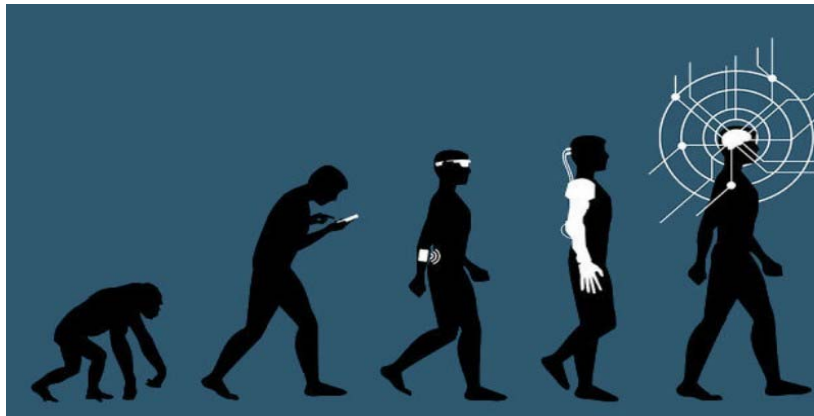
- AI is a constellation of technologies that enables machines to act with higher levels of intelligence and emulate the capabilities of sense, comprehend and act.
- The capability of a machine to imitate intelligent human behavior.

### DARTMOUTH CONFERENCE, 1956

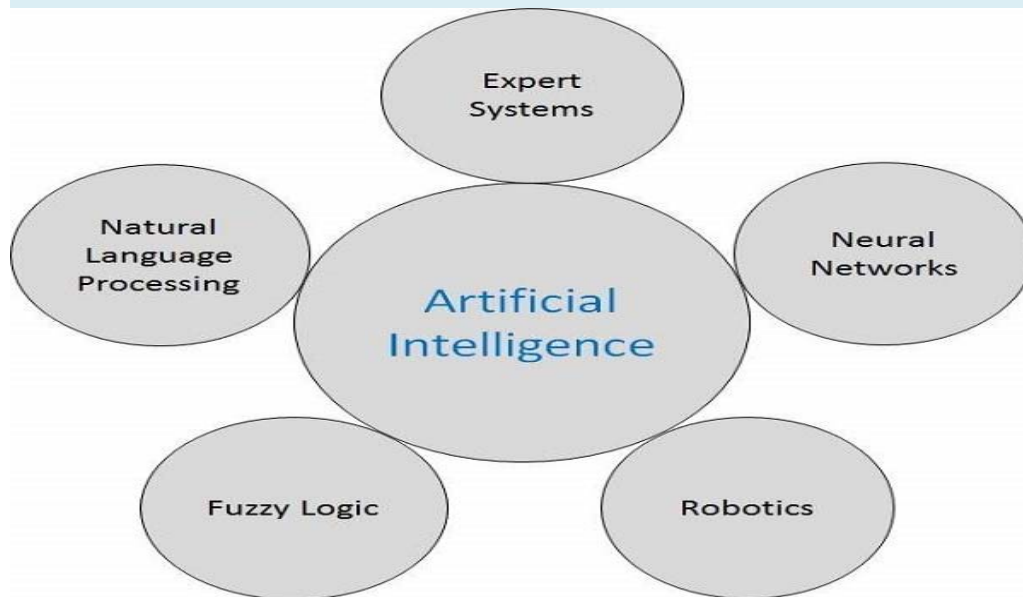
- This conference was the largest gathering on the topic that had yet taken place, and laid the foundation for an ambitious vision that has affected research and development in engineering, mathematics, computer science, psychology, and many other fields ever since.
- This conference and the concepts it crystallized gave birth to the field of AI as a vibrant area of interdisciplinary research, and provided an intellectual backdrop to all subsequent computer research and development efforts.
- John McCarthy was one of the founders of the discipline of Artificial Intelligence. He coined the term Artificial Intelligence.



# Evolution of AI



# Basic Applications of AI



## •Expert Systems

Examples – Medical Field, Airline scheduling.

## •Natural Language Processing

Examples: Speech recognition.

## •Neural Networks

Examples – Pattern recognition systems such as face recognition, character recognition, handwriting recognition.

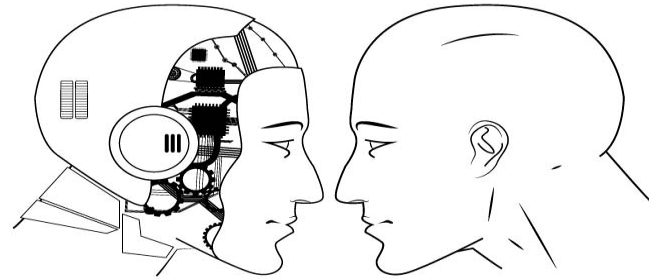
## •Robotics

Examples – Industrial robots for moving, spraying, painting, drilling, cleaning, coating, carving, etc.

## •Fuzzy Logic Systems

Examples – Consumer electronics, automobiles, etc.

## ARTIFICIAL INTELLIGENCE VS HUMAN



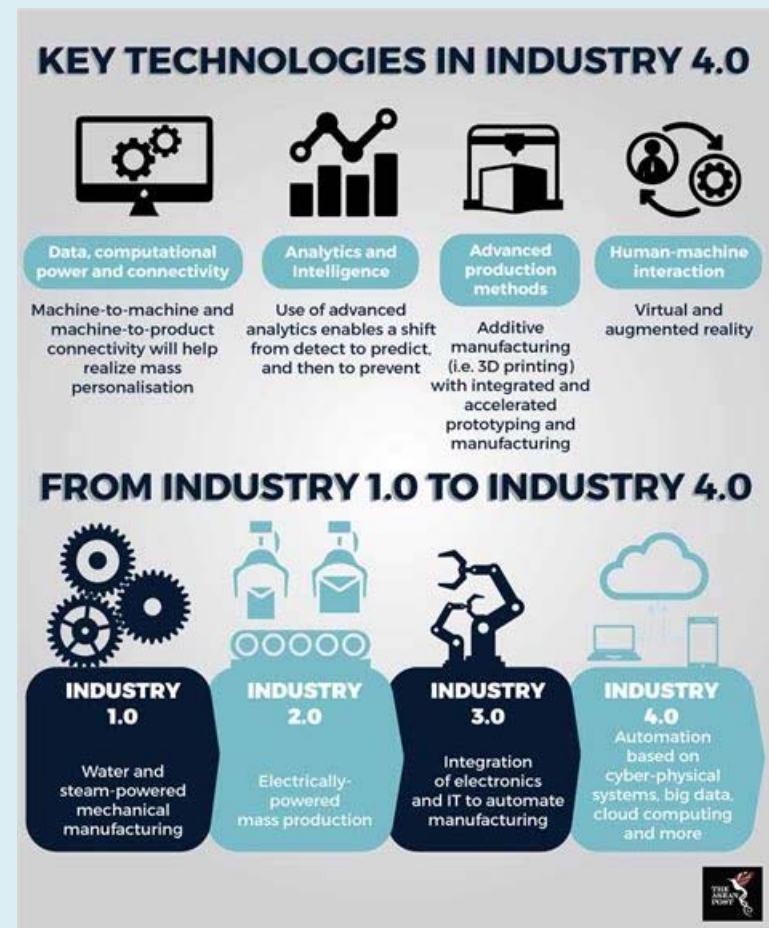
- A software developed by IBM, Deep Blue was successful in defeating World Chess Champion Gary Kasparov in 1997.

- Deep Mind System AlphaGo developed by Google defeats the Go World champion Ke Jie in 2017.



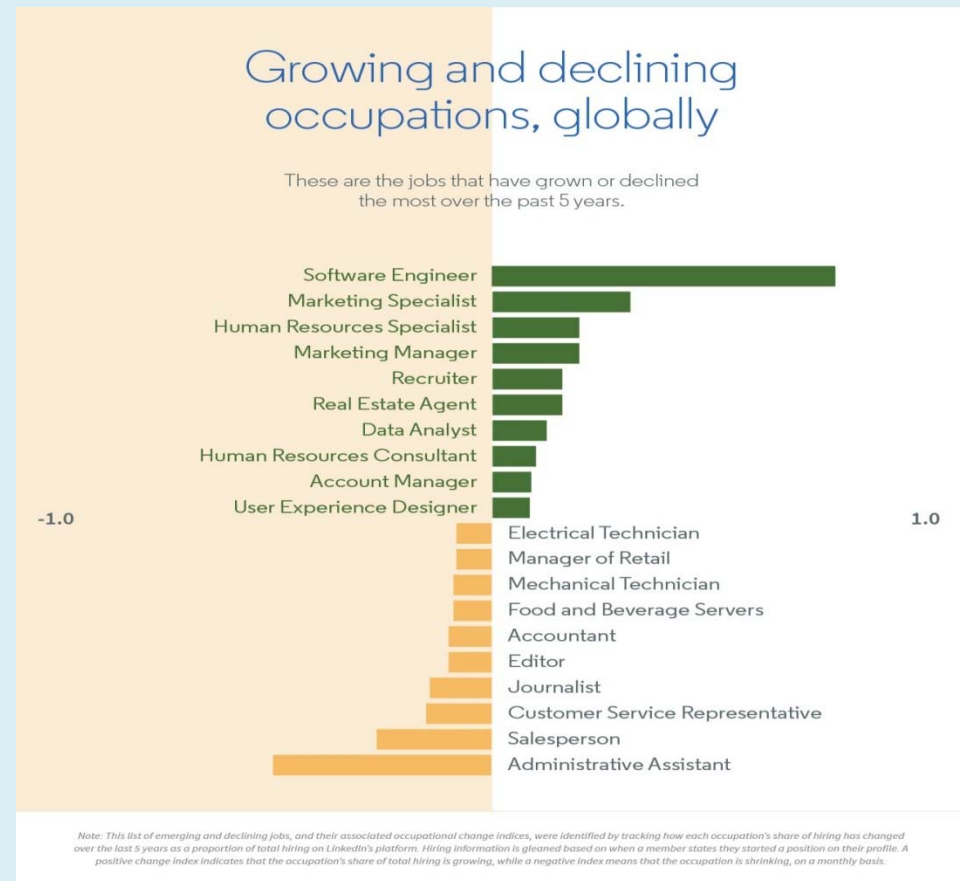
## Industrial Revolution 4.0 - Its Impact

- WEF launches its fourth centre in INDIA after USA, CHINA and JAPAN.
- Limited areas where the fourth industrial revolution can help in transforming India in fields of –
  - ✓ Alleviating poverty
  - ✓ Better and low cost health care (Reduce expense on it)
  - ✓ Enhancing farmer's Income
  - ✓ By providing them latest technologies and equipments
  - ✓ Strengthening infrastructure ,improving connectivity every last village
  - ✓ Artificial intelligence to empower and enable specially abled people.
  - ✓ Improving ease of living ,ease of doing business



# Impacts of AI on Jobs

- Middle-level jobs that require routine manual and cognitive skilled are the ones that are most at risk.
- Automation can lead to lowering prices of products.
- Every machine that replaces a human also creates a new job.
- As per the report of WEF, 65% of today's primary school children will find themselves in jobs that don't exist yet.



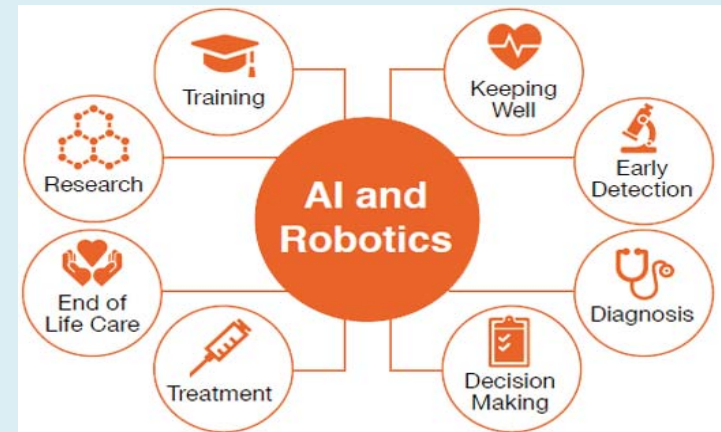


# AI in different Sectors

- **Healthcare**
- **Environment**

The IBM researchers are testing a computer system capable of learning to predict the severity of air pollution in different parts of the city several days in advance by combining large quantities of data from several different models—an extremely complex computational challenge. The system could eventually offer specific recommendations on how to reduce pollution to an acceptable level.

- **Education** : Pearson's WriteToLearn software uses natural language processing technology to give students personalized feedback, hints, and tips to improve their writing skills. In describing his experience using WriteToLearn.



## Ethics in AI

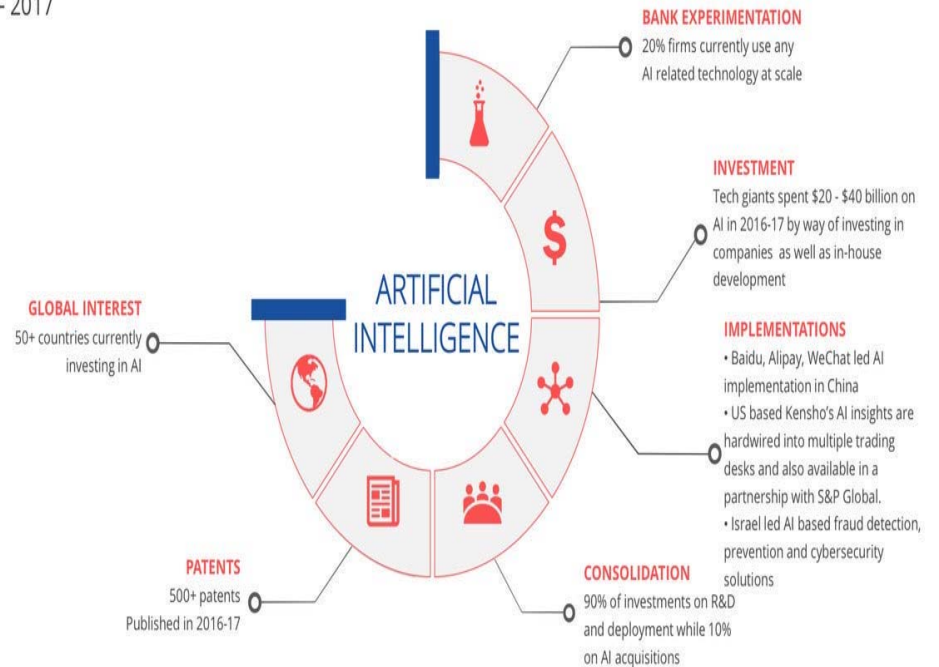
- Unemployment, what happens after the end of jobs?
- Robot rights : How do we define humane treatment of AI?
- Inequality : How do we distribute the wealth created by machines?

# Geopolitics of AI

- While artificial intelligence brings each nation great potential, it also brings major geopolitical challenges that affect not only national security but also the foundations to the security of humanity. *That brings us to evaluating some important questions: How is artificial intelligence re-defining power? What are the security, social, economic and political consequences of the advances in artificial intelligence on a global level? Which artificial intelligence innovations, including advances in hardware, software, processing power and more, are heightened strategic security risks? How can nations prepare for any potential existential security threats?*

## Current State of #AI

AI - 2017



source opus via @mikequindazzi

**. “Whoever becomes the leader in this sphere will become the ruler of the world”: Vladimir Putin.**

# 5G & AI

- The 5G network and artificial intelligence are intertwined.
- Wireless robots or humanoids.
- Self Driving Car.
- Initially, 5G will be an overlay to existing 4G and will start achieving meaningful scale and reach by early 2020s.



# Is India AI ready?

- India's efforts to set up a national centre on artificial intelligence reflect the country's ambition to accelerate the AI dialogue on the global stage.
- A national programme has been envisaged by the Govt. which will also develop an AI portal soon.
- According to a research 65% Indians have responded positively to the use of AI in future.
- The Govt. plans to create 1 lakh digital villages in the next five years.
- Startups related to AI are increasing massively in India which shows a great potential in the AI field.
- Major reskilling of workforces is required if India is to make itself AI savvy in the future.

<https://youtu.be/uFIirmjGhIA>