

ESSAY WRITING

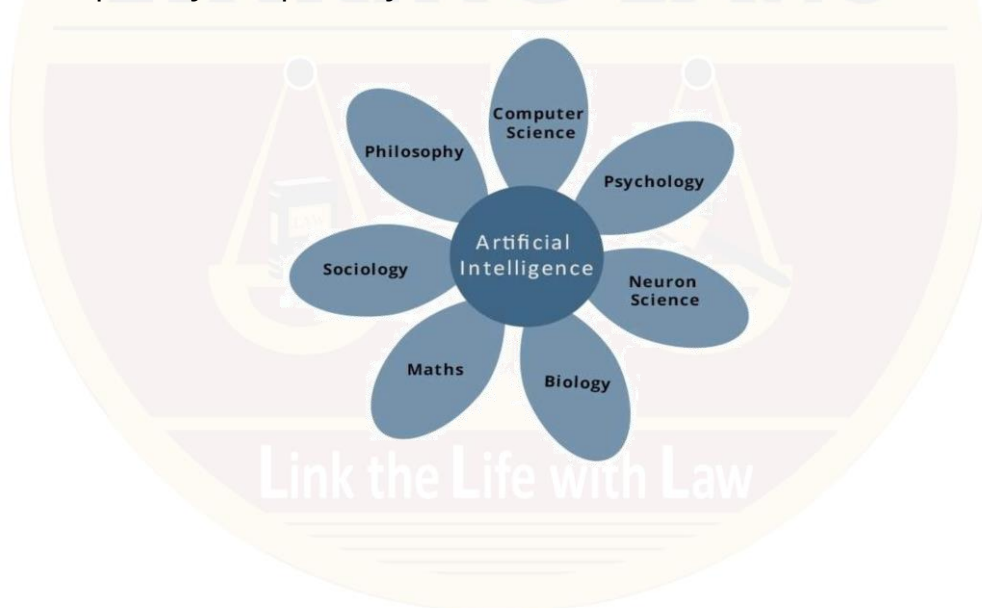
RISE TO ARTIFICIAL INTELLIGENCE

INTRODUCTION

Artificial Intelligence (AI) is a hot word these days. It is a branch of computer science which deals with creating computers or machines as intelligent as human beings.

The term was coined in 1956 by **John McCarthy** at the Dartmouth conference, Massachusetts Institute of Technology.

It is a simulation of human intelligence processes such as learning (the acquisition of information and rules for using the information), reasoning (using the rules to reach approximate or definite conclusions), and self-correction by machines, especially computer systems.



Examples of Artificial Intelligent Technologies

Robotics and Automation: Robots can be programmed to perform high-volume, repeatable tasks normally performed by humans.



Natural Language Processing (NLP) is the processing of human language by a computer program.

Pattern recognition is a subset of machine learning that seeks to identify patterns in data.

Machine vision is the science of giving computers a vision by capturing and analyzing visual information using a camera, analog-to-digital conversion, and digital signal processing. It is mostly compared to human eyesight, however, machine vision is not constrained by biology = it can even be programmed to see through walls.

What are the applications/advantages of Artificial Intelligence (AI)?

Self-driving Cars

Digital assistants and smart speakers: Siri, Alexa, Cortana, and Google Assistant utilise artificial intelligence to convert spoken words to text and map the text to certain commands.

Translation: For several decades, translating text between various languages was a pain point for computers.

✚ **Facial recognition**

✚ **Medicine**

✚ **Agriculture Sector**



What are the applications/advantages of Artificial Intelligence (AI)?

- ✚ **Business Sector**
- ✚ **Education Sector**
- ✚ **Financial Sector**
- ✚ **Legal Sector**
- ✚ **Manufacturing sector**
- ✚ **Intelligent Robots**
- ✚ **Gaming**
- ✚ **Cyber Security**
- ✚ **Smart Cities and Infrastructure**
- ✚ **Space sector**
- ✚ **Mining sector**
- ✚ **Defence Sector**

What are the concerns with the AI?

- ❖ **Job losses**
- ❖ **Robot bosses**
- ❖ **Human error**



- ❖ **High Cost**
- ❖ **Not ethical to replicate Humans**
- ❖ **Cannot replicate Humans**
- ❖ **No Original Creativity**
- ❖ **Privacy & Security**

India and AI

According to a Canada based company's report, Global AI Report 2019, **India stood at the ninth position in terms of the number of the AI specialists working in the field.** The US, China and the UK topped the list. The top ranked countries in this report have many academic institutes with programs on AI. They have therefore a much greater number of people skilled to do research in the field. India, on the contrary, lacks the opportunities in formal education in data science but is slowly trying to encourage the adoption of AI in educational institutes. Starting this year, **the CBSE has AI as an elective subject** for its ninth grade classes.

India and AI

IIT Hyderabad has launched a full fledged **Bachelor of Technology (B Tech) program in AI** becoming the first Indian educational institution to do so. It is also most likely the third educational institute in the world after Carnegie Mellon University and the Massachusetts Institute of Technology to have a full fledged B Tech program on AI.

IIT Hyderabad is another educational institute that introduced popular **executive programs on AI** and machine learning and blockchain and distributed ledger technologies.

Defence forces of India are now venturing into the products and technologies which will aid defence measures using the AI and technologies.



India and AI

In India, corporates have started collaborating with academia on AI. IBM's Blue project is an example.

There are many startups in the country which are doing great work in image analytics, data analytics, predictive intelligence etc.

It is estimated that **AI will add 957 billion dollars to India's GDP by the year 2035** boosting India's annual growth by 1.3% points.

What are the measures taken by the government to promote AI?

A Task Force on Artificial Intelligence (AI) for India's Economic Transformation was constituted on 24th August 2017. The Task Force gave its report on 19th January 2018. It has recommended an Inter-Ministerial **National Artificial Intelligence Mission** to act as a nodal agency for coordinating AI related activities in India.

NITI Aayog unveiled its discussion paper on **national strategy on AI** which seeks to guide research and development in new and emerging technologies. NITI has identified 5 sectors – **healthcare, agriculture, education, smart cities and infrastructure, and transportation** – to focus its efforts on the implementation of AI. The paper focusses on how India can leverage transformative technologies to ensure social and **inclusive growth**.

- ❖ **What are the measures taken by the government to promote AI?** In order to create a policy framework and to develop the ecosystem for Artificial Intelligence, **Ministry of Electronics & Information Technology**, has constituted four committees covering all the aspects of AI. These Committees are:
 - ❖ Committee on platforms and data for AI,
 - ❖ Committee on leveraging AI for identifying National Missions in key sectors,
 - ❖ Committee on mapping technological capabilities, key policy enablers, skilling, re-skilling and R&D
 - ❖ Committee on cybersecurity, safety, legal and ethical issues.



Task Force created by the **Ministry of Defence** has studied research and innovation in Artificial Intelligence (AI) and outlined its adoption in defence sector including a future roadmap on how to integrate and embed AI strategy with a core defence strategy. **Projects:** NETRA- software to intercept online communication, SECOS- Secure operating system.

What are the challenges to India's Artificial Intelligence Development?

- Lack of enabling ecosystems for data collection and usage.
- The low intensity of AI research.
- Insufficient availability of AI expertise, manpower and skilling opportunities.
- High resource cost and low awareness for adopting AI in business processes.
- Unclear privacy, security and ethical regulations.
- Unattractive Intellectual Property regime to incentivise research and adoption of AI.

Conclusion

Despite these threats and challenges, it would be stupid to argue that Artificial Intelligence (AI) is not the future and it's only a matter of time that machines will replace most of the jobs. It does not mean the end of the road for humanity and we have a history of technological revolutions causing social and political changes in society. In the Early years there are bound to have some fears and challenges but so was the case with the French revolution, steam engines, industrial revolutions and most recently the computers. Nevertheless, there will be more opportunities in the fields not yet known and there will be more jobs to cater to human needs. In the case of India, **Innefu** is one such Artificial Intelligence (AI) based company which is still in its nascent phase but soon may challenge global companies and therefore can create AI-ecosystem in India.



Correct the following sentences by using the right word, conjunction, adverb, adjective etc.

1. He spoke _____ me _____ Urdu.
2. They live _____ the same roof.
3. I have not seen him _____ Wednesday last.
4. I have known him _____ a long time.
5. The moon does not shine _____ its own light.
6. You will not succeed _____ your work harder.
7. We arrived _____ you had gone.
8. I waited _____ the train arrived.
9. I cannot give you money, _____ I have none.
10. We got into the port _____ the storm came on.

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