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# **ARTIFICIAL INTELLIGENCE RESEARCH TOPICS FOR PHD MANUSCRIPTS 2022**

An Academic presentation by  
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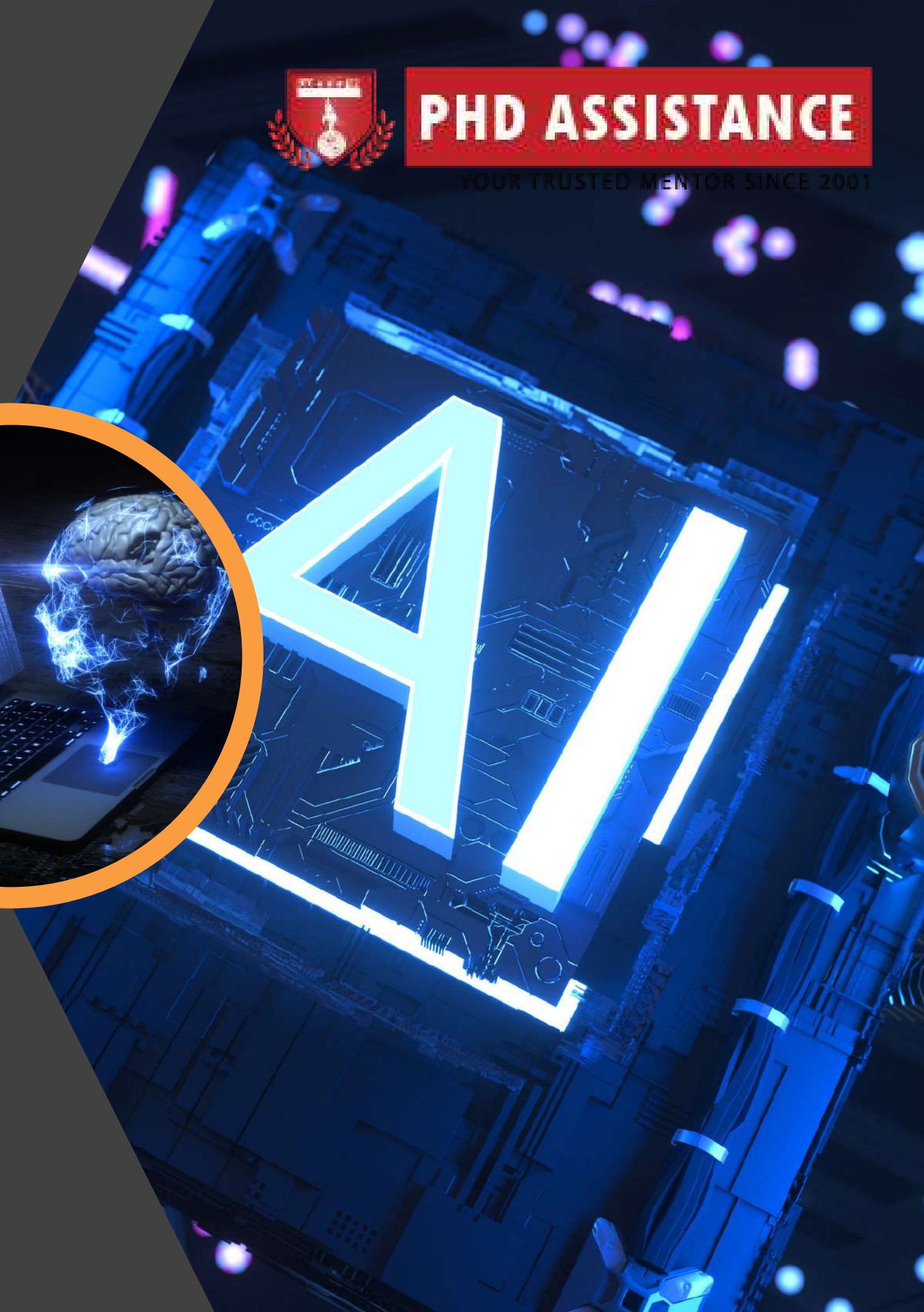


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# Today's Discussion

- Introduction
- Deep learning
- Robotics
- Natural language processing
- Computer vision
- Recommender systems
- Internet of things
- Conclusion





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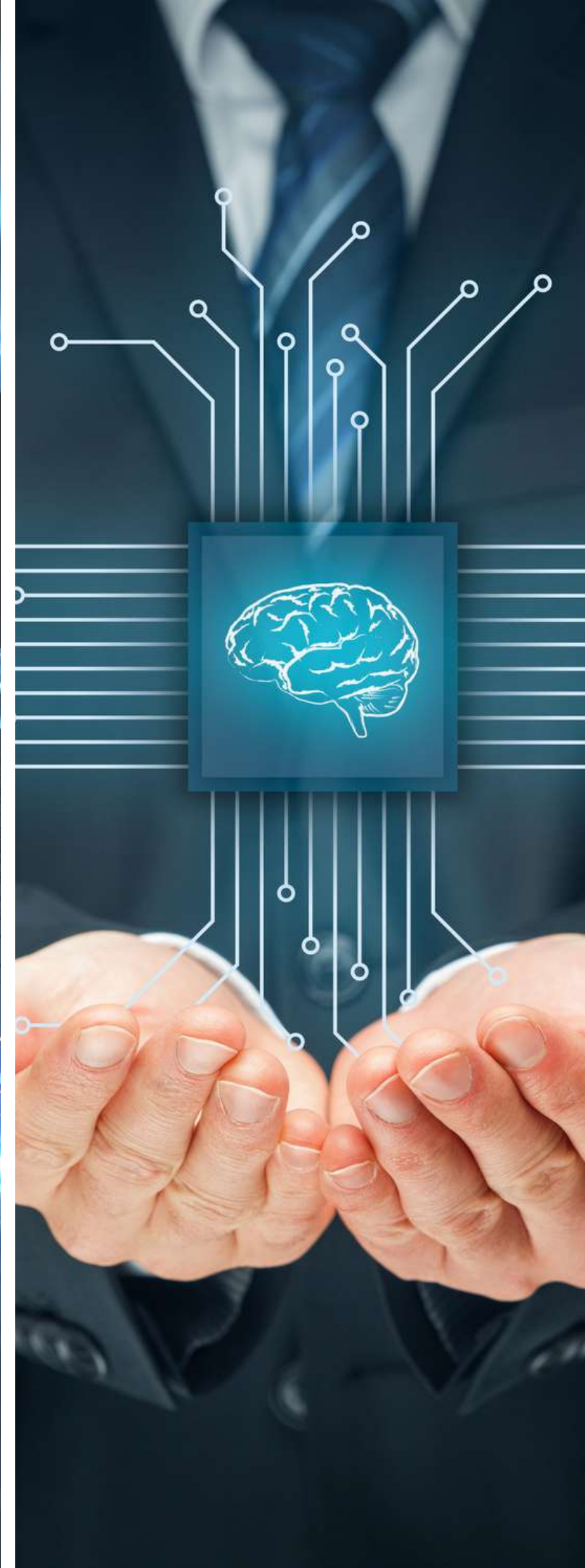
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# AI

## ARTIFICIAL INTELLIGENCE

## INTRODUCTION

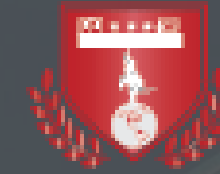
- Imagine a world where knowledge isn't limited to humans!!! A world in which computers will think and collaborate with humans to create a more exciting universe.
- Although this future is still a long way off, Artificial Intelligence has made significant progress in recent years.
- In almost every area of AI, such as **quantum computing**, healthcare, autonomous vehicles, the internet of things, robotics, and so on, there is a lot of research going on.



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- So much so that the number of annual [Published Research Papers](#) on Artificial Intelligence has increased by 90% since 1996.
- Keeping this in mind, there are several sub-topics on which you can concentrate if you want to study and write a thesis on **Artificial Intelligence**.
- This article covers a few of these subjects and provides a short overview.



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# DEEP LEARNING

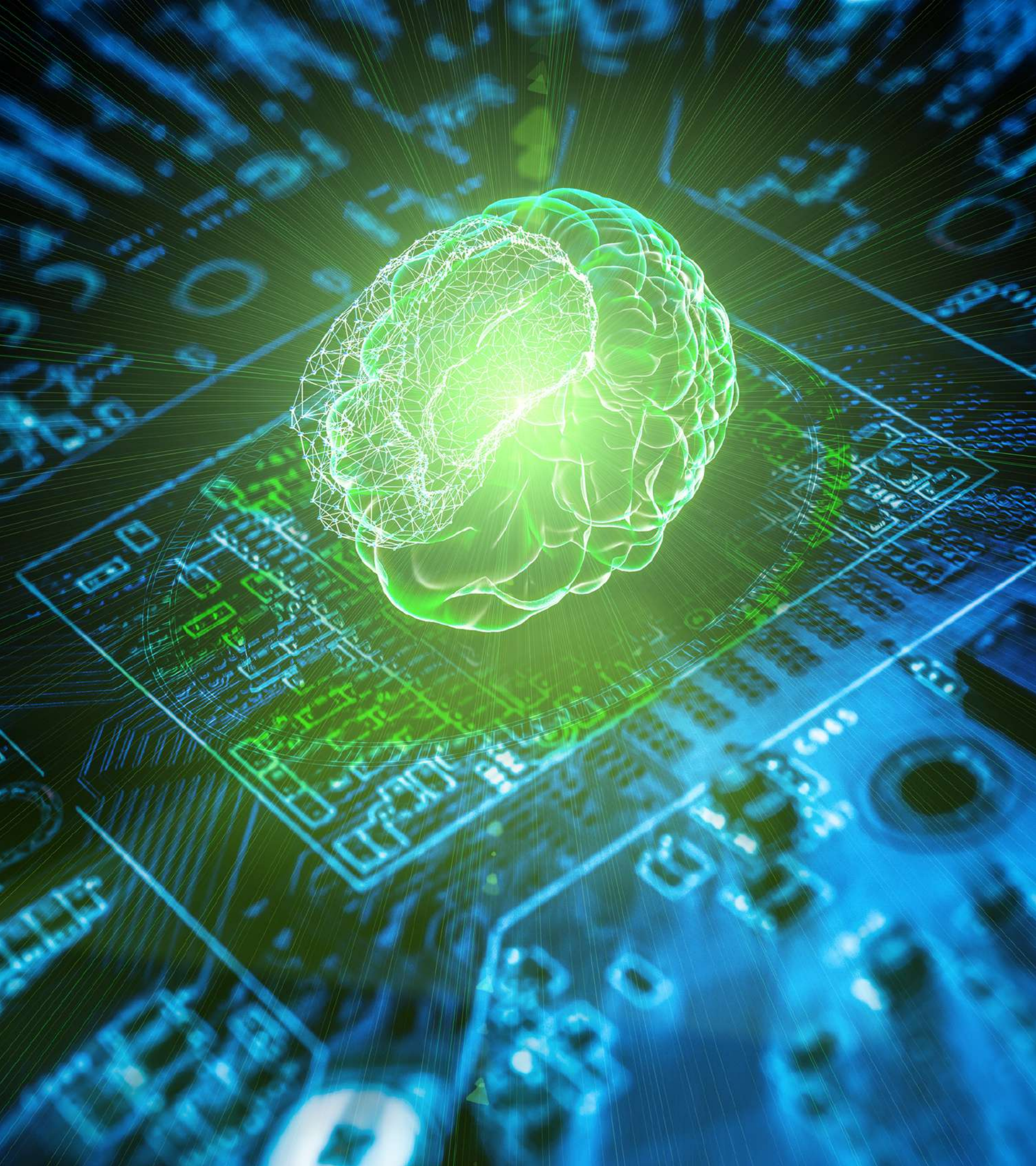
- Deep Learning is a type of machine learning that learns by simulating the internal workings of the human brain in order to process data and make decisions.
- Deep Learning is a form of machine learning that employs **artificial neural networks**.
- These neural networks are linked in a web-like structure, similar to the human brain's networks (basically a condensed version of our brain!).





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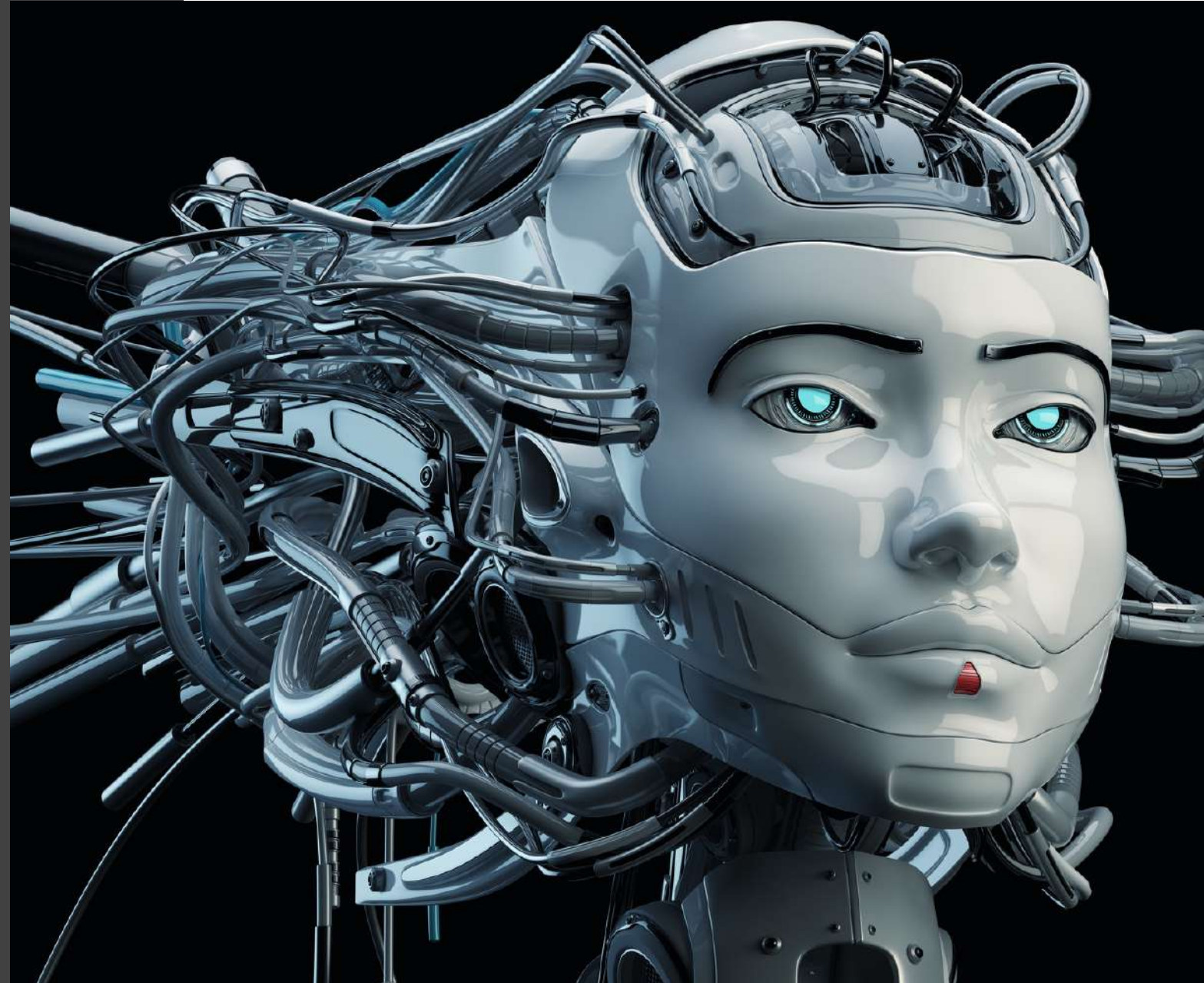
- **Artificial neural networks** have a web-like structure that allows them to process data in a nonlinear manner, which is a major advantage over conventional algorithms that can only process data in a linear manner.
- Rank Brain, one of the variables in the Google Search algorithm, is an example of a deep neural network.

# ROBOTICS



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- Robotics is an area concerned with the creation of humanoid robots that can assist humans and perform several acts.
- In certain cases, robots can behave like humans, but can they think like humans as well?
- Kismet, a social interaction robot developed at **M.I.T.'s Artificial Intelligence Lab**, is an example of this.
- It understands human body language as well as our voice and responds to them appropriately.



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**NLP**

# **NATURAL LANGUAGE PROCESSING**

- Furthermore, people's assessments and judgements of their experiences are frequently formed without their knowledge, contributing to bias in reality perceptions.
- Individuals who practice mindfulness and develop their awareness may perceive their surroundings more precisely and, as a result, respond to them purposefully rather than habitually or mechanically.



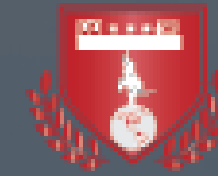


## COMPUTER VISION

- The internet is full of images! This is the selfie age, and taking and posting a photo has never been easier.
- Each day, millions of images are uploaded to the internet and viewed.
- It's important for computers to be able to see and understand images in order to make the most of the vast amount of images available online.
- And, while humans can do this without thinking about it, computers find it more difficult! This is where Computer Vision enters the image.



# RECOMMENDER SYSTEMS



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- Do you get movie and series recommendations from Netflix based on your previous choices or favourite genres? This is achieved by Recommender Systems, which offer you advice about what to do next from the vast array of options available online.
- Content-based Recommendation or even Collaborative Filtering may be used in a Recommender System.
- The content of all the products is analysed in Content-Based Recommendation.





# INTERNET OF THINGS

- Artificial intelligence is concerned with the creation of systems that can learn to perform human-like tasks based on prior experience and without the need for human interaction.
- The Internet of Things, on the other hand, is a network of different devices linked to the internet and capable of collecting and exchanging data.
- All of these IoT devices now generate a large amount of data, which must be collected and mined in order to produce actionable results.



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- Artificial Intelligence enters the picture at this stage.
- The Internet of Things is used to collect and manage the massive amounts of data that Artificial Intelligence algorithms need.
- As a consequence, these algorithms transform the data into useful actionable results that IoT devices can use.



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## CONCLUSIONS

- In this blog discussed the recent enhancement for artificial intelligences and their sub field.
- This will help to the [PhD scholar](#) who are interested to research in artificial intelligences domain.



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# ***GET IN TOUCH***

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