

Latest advancement in the field of AI



Introduction

The AI sector has quickly impacted every industry in a short period of time. Prior to the invention of the calculator, humans performed all calculations manually. We were all afraid that the machine would take our jobs, but in reality, technology has benefited humans by enhancing our ability to calculate accurately and quickly.

Every year, technology continues to advance in industry. We are both living in the age of artificial intelligence (AI) right now. A machine that can think like a human is essentially what AI is. The AI sector is constantly growing. The size of the world market for artificial intelligence, estimated at USD 150.2 billion in 2023, is projected to increase at a CAGR of 36.8% from 2023 to 2030.

Let's take a look at some of the most recent developments in AI.

I. GPT-4

You surely have been aware about Chat GPT. It was founded in Nov 30, 2022 by a company called as OpenAI. The word GPT stands for Generative Pre-trained Transformer. It can generate human like responses based on the Prompts given to it. Not only can it produce text based responses but images, videos, songs, poets so and so on. Company has launched two models of GPT: **GPT 3.5 and GPT 4.**

- ❖ GPT 3.5 can only take text based inputs but the advance version of GPT 4 can response to images based inputs as well. It can easily recognized the image and generate output accordingly.
- ❖ GPT 3.5 can generate only responses limited to 3000 words whereas GPT 4 can generate more than 25000 words response.
- ❖ GPT-4 is 82% less likely to respond to requests for disallowed content and 40% more likely to produce factual responses than GPT-3.5.

2. Computer Vision in Self-Driving Cars

When we were a kid, we imagined about owning a car that could run automatically and in just a few short years, it appears that our dream has come true. Therefore, all credit for making it possible goes to AI.

Computer Vision is branch of AI. It is an art of teaching machine on how to understand and interpret images by using other vehicle, road signs, sensors and other obstacles.

Self-driving vehicles use computer vision algorithms to gather data from cameras and sensors in order to recognize automobiles, traffic lights, and roads.

The reliability of computer vision systems in bad weather and low light is a significant issue that needs to be addressed. Despite these difficulties, computer vision in self-driving cars has a bright future.

However, as technology advances, self-driving cars get safer and safer.

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3. Virtual Agents

A virtual agent is software with built-in AI capabilities that is used to provide customer service. It works like a chatbot. Virtual agents answer customer questions, provide product and service. It can perform specific task and can make suggestions accordingly.

However, I would like to point out that they are different from chat bots. It's much better than chatbot. With advances in technology, virtual agents have built-in AI capabilities with machine learning and natural language processing, allowing them to respond to unlimited queries. Virtual agents can handle large numbers of questions. Virtual agents can be employed in customer service, HR, Finance and sales and marketing.

4. Natural Language Processing (NLP)

NLP is a field of computer science that helps AI comprehend inputs based on text and spoken words in a way that's similar to the brain of a human. NLP helps AI to read, interpret and derive meaning from human language.

As we remember from school, computers can only understand binary language, which consists of 0s and 1s. How then it is possible for AI to comprehend our language. NLP walks in at this stage, assisting in the comprehension of human input and translating it into terms that an AI can understand. Data processing refers to the entire process.

AI translation capabilities have been greatly enhanced by NLP developments. NLP is used in every aspect of AI, including Siri, Chat GPT, Google Assistant, and a plethora of other applications.

5. Deep Learning Chips

Technology never stops changing. In the past, we had traditional chips that could carry out a variety of tasks and were highly programmable. These typical chips have processors, memories, and are capable of performing simple computations. But these chips were not capable for carrying out tasks based on AI applications. An AI deep learning chip was introduced to overcome this obstacle.

Now that AI has been incorporated into every software, it is crucial to develop chips that can function in parallel with AI.

Deep learning chips use machine learning and AI algorithms.

With their hardware structures, complementary packaging, memory, storage, and interconnect solutions, deep learning chips like these enable the integration of artificial intelligence (AI) into a variety of applications.

6. AI in Cybersecurity

Every day we create abundance amount of data. We generate around *2.5 quintillion bytes* of data every day. Since enormous amount of data is being generated every day. It will compromise data security. Cybersecurity was introduced to safeguard our data from malicious hackers.

And now AI powered cybersecurity came in. AI detects and respond to cyber treats in real-time. AI can do continuous monitoring on malware which is very much essential for upcoming future. It can help to identify potential threats in initial stages so that can cyber experts can take preventive measures at right time.

7. AI in Healthcare Sector

Each sector is using AI technology, and now the healthcare industry is included in it. But how can AI play a significant part in this sector?

Well, AI can help in a variety of ways that include by assisting patients, doctors, nurses, and staff members. The health care industry produces a huge amount of data, and AI can gather this data, analyze it, and derive valuable insights that may

be useful in identifying the problem's root cause. Additionally, it can help in the creation of treatment plans that ultimately extend human life.

Furthermore, artificial intelligence can aid in the creation of vaccines for chronic diseases. AI can also shield people from pandemics and epidemics in the years to come. On top of that, artificial intelligence aims to make human civilization invincible to underlying malignancy.

Conclusion

AI development has the potential to benefit humanity in many ways. It opens up with great opportunities. The human race will never stop finding new doors to opportunity. Simply embrace positive change and begin accepting technological evolution is what you and I should be doing. Don't worry, AI can't replace the human race, however it could boost our level of efficiency.