

18AIC306J
Design of Artificial Intelligence Products



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What is AI?



AI is short for artificial intelligence



Refers to the ability of machines to perform tasks that ordinarily require human intelligence, such as understanding natural language and recognizing objects.

Timeline

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○ **1950**

Turing proposes the Turing test for AI

○ **1956**

The term 'artificial intelligence' is coined

○ **1997**

IBM's Deep Blue defeats world chess champion Kasparov

● **2012**

Google's neural network learns to recognize cats

○ **2016**

AlphaGo beats top Go player Lee Sedol

○ **2020**

GPT-3 generates natural language texts

- Artificial Intelligence is composed of two words **Artificial** and **Intelligence**, where Artificial defines "man-made," and intelligence defines "thinking power", hence AI means "**a man-made thinking power.**"
- It is a branch of computer science by which we can create intelligent machines which can behave like a human, think like humans, and able to make decisions.

Why Artificial Intelligence?

Following are some main reasons to learn about AI:

- With the help of AI, you can create such software or devices which can solve real-world problems very easily and with accuracy such as health issues, marketing, traffic issues, etc.
- With the help of AI, you can create your personal virtual Assistant, such as Cortana, Google Assistant, Siri, etc.
- With the help of AI, you can build such Robots which can work in an environment where survival of humans can be at risk.
- AI opens a path for other new technologies, new devices, and new Opportunities.

Goals of Artificial Intelligence

Following are the main goals of Artificial Intelligence:

- Replicate human intelligence
- Solve Knowledge-intensive tasks
- An intelligent connection of perception and action
- Building a machine which can perform tasks that requires human intelligence such as:
 1. Proving a theorem
 2. Playing chess
 3. Plan some surgical operation
 4. Driving a car in traffic
- Creating some system which can exhibit intelligent behavior, learn new things by itself, demonstrate, explain, and can advise to its user.

What Are the Risks of AI?

When it comes to the risks of AI, there are a few key things you should know.

First and foremost, AI has the potential to displace large numbers of workers.

This is because AI is capable of automating tasks that have traditionally been carried out by human beings.

What Are the Risks of AI?

Another big risk posed by AI is the fact that it can be used to perpetuate bias and discrimination.

This is because AI relies on data to learn and make decisions.

And if that data is biased, then the AI will be biased as well.

What Are the Risks of AI?

Finally, there's also the risk that AI could be used to create autonomous weapons, also known as "killer robots."

These are weapons that would be able to select and engage targets without any human involvement.

And obviously, this could have disastrous consequences.

What Are the Benefits of AI?

By giving us access to more precise information, AI can assist us in making wiser decisions.

It can help us automate repetitive tasks so that we can focus on more important things.

It can help us make predictions about the future based on past data.

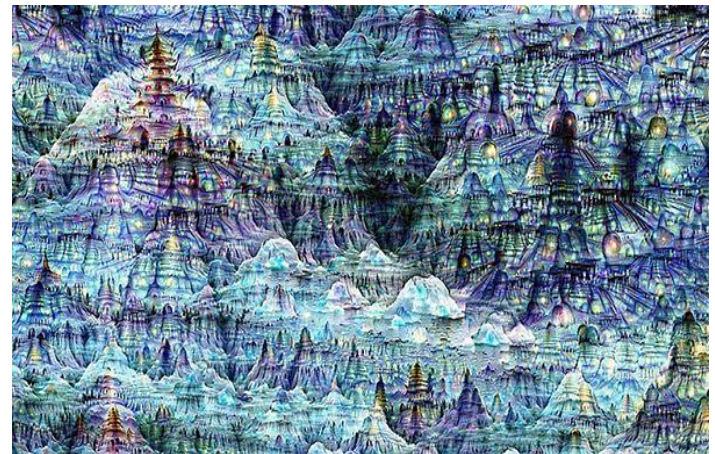
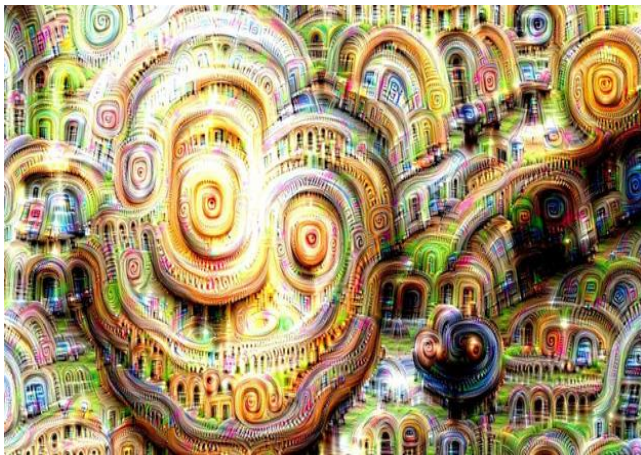
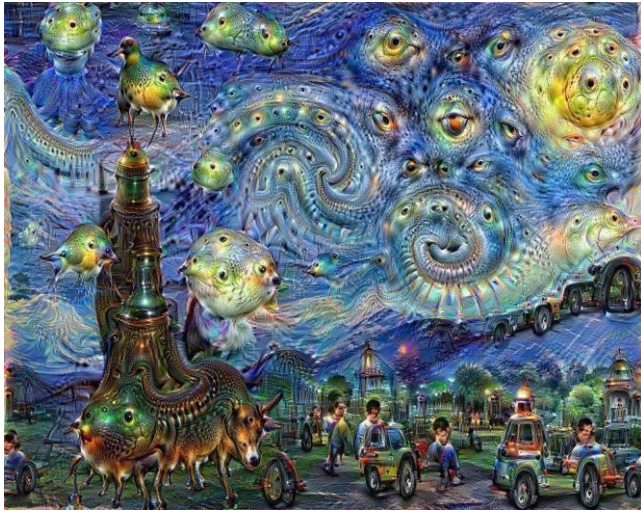
What Are the Benefits of AI?

In general, AI has the potential to make our lives easier and more efficient.

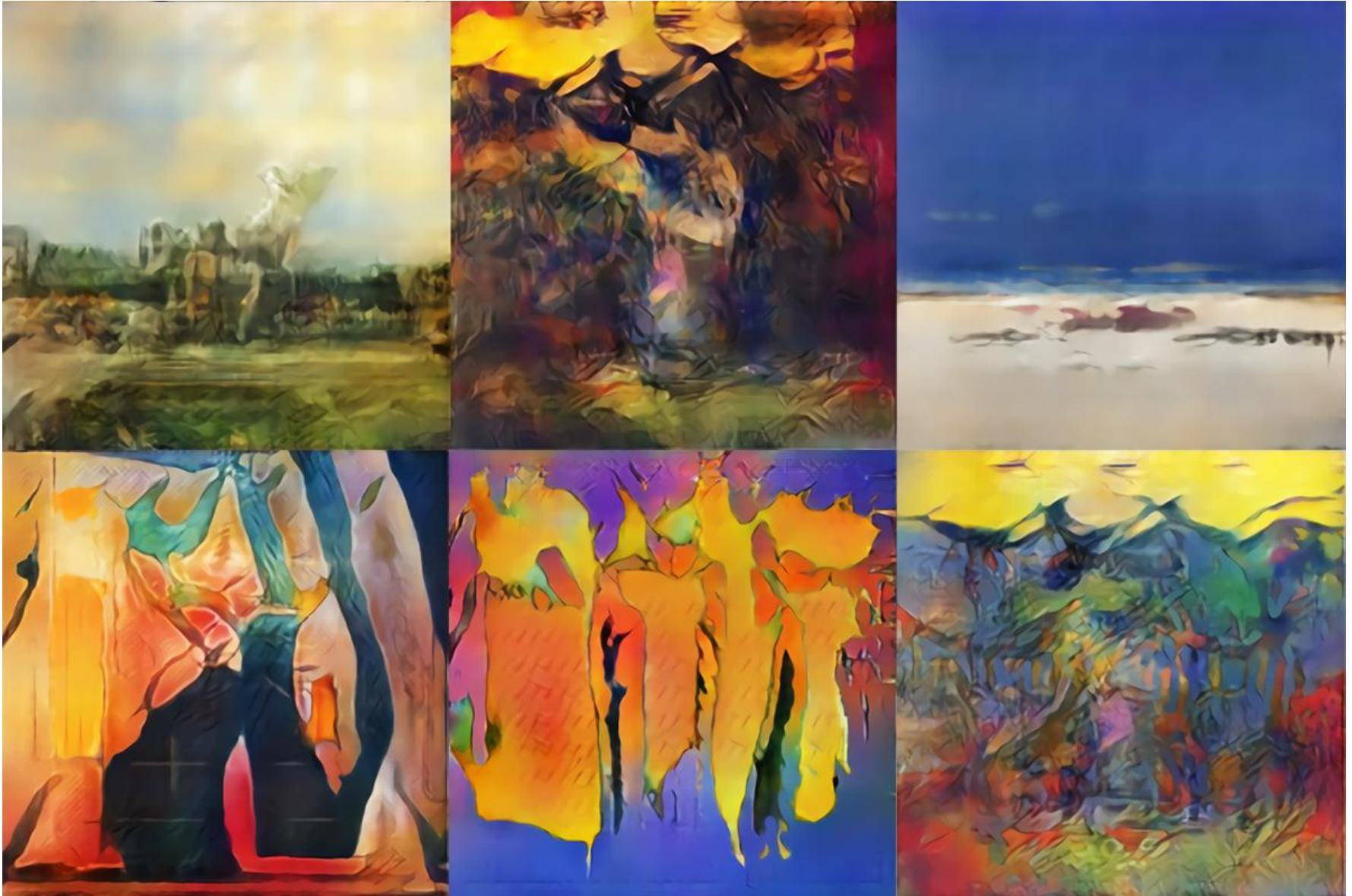
We should be careful not to rely on it too heavily, but used in moderation, it can be a powerful tool.

How can AI help in a creative process?

➤ Google Deep Dream



How can AI help in a creative process?



How can AI help in a creative process?



Types of AI-based on technology

Artificial intelligence is categorized based on functionality and technology used.

There are three types of AI-based on technology;

Artificial Super Intelligence (ASI)

Artificial narrow intelligence (ANI)

Artificial general intelligence (AGI)

Artificial narrow intelligence (ANI)

Artificial narrow intelligence (ANI), also referred to as weak AI or narrow AI, is the only type of artificial intelligence we have successfully realized to date.

Narrow AI is goal-oriented, designed to perform singular tasks - i.e. facial recognition, speech recognition/voice assistants, driving a car, or searching the internet - and is very intelligent at completing the specific task it is programmed to do.

Examples of narrow AI

- Rankbrain by Google / Google Search
- Siri by Apple, Alexa by Amazon, Cortana by Microsoft and other virtual assistants
- IBM's Watson
- Image / facial recognition software
- Disease mapping and prediction tools
- Manufacturing and drone robots
- Email spam filters / social media monitoring tools for dangerous content
- Entertainment or marketing content recommendations based on watch/listen/purchase behaviour
- Self-driving cars

Artificial general intelligence (AGI)

Artificial general intelligence (AGI), also referred to as strong AI or deep AI, is the concept of a machine with general intelligence that mimics human intelligence and/or behaviours, with the ability to learn and apply its intelligence to solve any problem. AGI can think, understand, and act in a way that is indistinguishable from that of a human in any given situation.

Artificial Superintelligence (ASI)

Artificial super intelligence (ASI), is the hypothetical AI that doesn't just mimic or understand human intelligence and behavior; ASI is where machines become self-aware and surpass the capacity of human intelligence and ability.

THANK YOU