NAME: يوسف وائل عبد الرحمن علي اسماعيل

B.N: ١٠٧٨

TOPIC:

DATE: 3١\5\2020

GITHUP LINK: https://youssef-wael22.github.io/ece006/

GITHUP PAGE: https://github.com/youssef-wael22/ece006

What Is Artificial Intelligence (AI)?

Artificial intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. The term may also be applied to any machine that exhibits traits associated with a human mind such as learning and problem-solving.

The ideal characteristic of artificial intelligence is its ability to rationalize and take actions that have the best chance of achieving a specific goal.

Understanding Artificial Intelligence

When most people hear the term artificial intelligence, the first thing they usually think of is robots. That's because big-budget films and novels weave stories about human-like machines that wreak havoc on Earth. But nothing could be further from the truth.

Artificial intelligence is based on the principle that human intelligence can be defined in a way that a machine can easily mimic it and execute tasks, from the most simple to those that are even more complex. The goals of artificial intelligence include learning, reasoning, and perception.

As technology advances, previous benchmarks that defined artificial intelligence become outdated. For example, machines that calculate basic functions or recognize text through optimal character recognition are no longer considered to embody artificial intelligence, since this function is now taken for granted as an inherent computer function.

AI is continuously evolving to benefit many different industries. Machines are wired using a cross-disciplinary approach based in mathematics, computer science, linguistics, psychology, and more.

Algorithms often play a very important part in the structure of artificial intelligence, where simple algorithms are used in simple applications, while more complex ones help frame strong artificial intelligence.

Applications of Artificial Intelligence

The applications for artificial intelligence are endless. The technology can be applied to many different sectors and industries. AI is being tested and used in the healthcare industry for dosing drugs and different treatment in patients, and for surgical procedures in the operating room.

Other examples of machines with artificial intelligence include computers that play chess and self-driving cars. Each of these machines must weigh the consequences of any action they take, as each action will impact the end result. In chess, the end result is winning the game. For self-driving cars, the computer

system must account for all external data and compute it to act in a way that prevents a collision.

Artificial intelligence also has applications in the financial industry, where it is used to detect and flag activity in banking and finance such as unusual debit card usage and large account deposits—all of which help a bank's fraud department. Applications for AI are also being used to help streamline and make trading easier. This is done by making supply, demand, and pricing of securities easier to estimate.

SCREAN SHOTS:

Artificial intelligence (AI)

links

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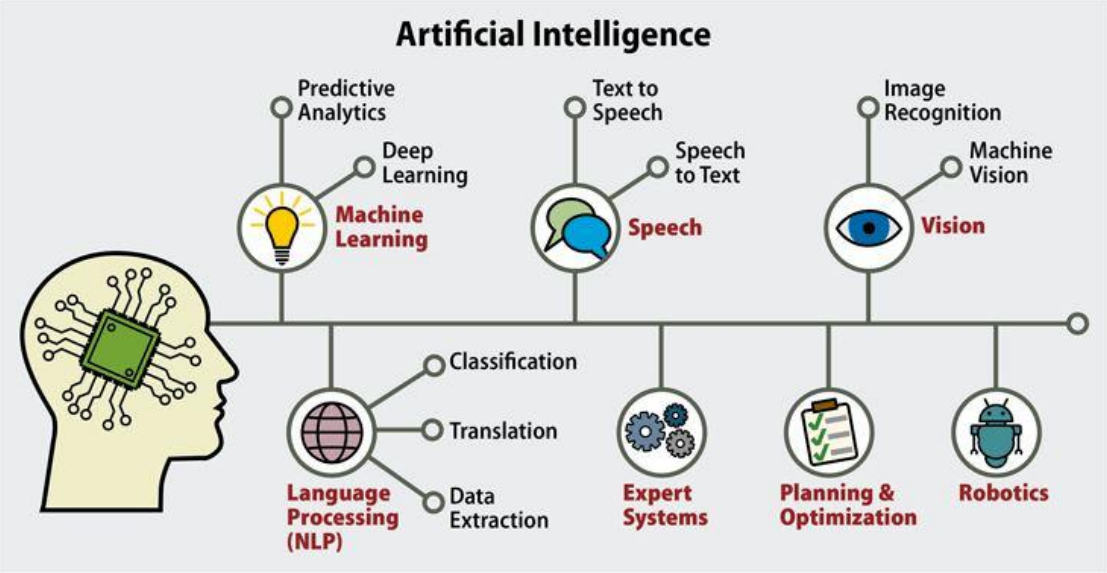

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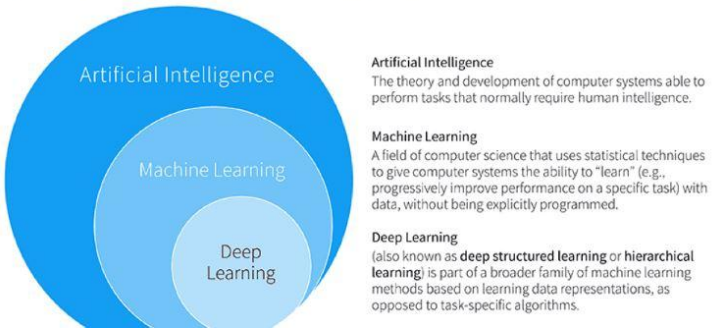
Artificial intelligence (AI), the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience. Since the development of the digital computer in the 1940s, it has been demonstrated that computers can be programmed to carry out very complex tasks-as, for example, discovering proofs for mathematical theorems or playing chess-with great proficiency. Still, despite continuing advances in computer processing speed and memory capacity, there are as yet no programs that can match human flexibility over wider domains or in tasks requiring much everyday knowledge. On the other hand, some programs have attained the performance levels of human experts and professionals in performing certain specific tasks, so that artificial intelligence in this limited sense is found in applications as diverse as medical diagnosis, computer search engines, and voice or handwriting recognition.



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Analytic AI

with machine learning (including its most advanced deep learning techniques), analytic AI scans tons of data for dependencies and patterns to ultimately produce recommendations or provide a business with insights, thus contributing to data-driven decision-making.

analysis and supplier risk assessment are just a few examples of analytic AI in action. If you'd like to get a complete picture of how such a solution works, our experts have summarized the insights gained from their experience with two of the use cases – inventory optimization and demand forecasting.

Functional AI

Functional AI is very similar to analytic AI – it also scans huge amounts of data and searches for patterns and dependencies in it. However, instead of giving recommendations, functional AI takes actions. For instance, being the part of the IoT cloud, it can spot a machine-breakdown pattern in the sensor data received from a certain machine, and trigger a command to turn this machine off. Another example: robots that Amazon uses to bring the shelves with the goods to the pickers, thus speeding up the picking process.

Interactive AI

type of AI allows businesses to automate communication without compromising on interactivity. To envisage this type of AI, think of chatbots and smart personal assistants whose abilities can vary from answering pre-built questions to understanding the conversation context.

AI can serve another purpose – improving a company's internal processes. For example, one of our projects was dedicated to creating a chatbot to facilitate the corporate process of vacation booking.

Text AI

that use text AI can enjoy text recognition, speech-to-text conversion, machine translation, and content generation capabilities. Even if a company is not Google or Amazon, or any other giant company that provides text AI as a service, it can still take advantage of this AI type. For example, the company can use text AI to power an internal corporate knowledge base.

to a traditional knowledge base that rests upon a search by keywords, an AI-powered one can find the document containing the most relevant answer even if the document doesn't have full keywords. This is possible thanks to semantic search and natural language processing, which allow AI to build semantic maps and recognize synonyms to understand the context of the user's question.

Visual AI

visual AI, businesses can identify, recognize, classify and sort objects or convert images and videos into insights. A computer system that helps an insurer to estimate damage based on damaged car photos or a machine that grades apples based on their color and size are the examples of visual AI. This type of AI covers computer vision or augmented reality fields.

get the real feel of the value that visual AI can bring, you can read in more detail about a face recognition solution that we developed to help a retailer enhance and personalize their customer service; or about an application for automated inspections that allowed a manufacturer to immediately control the quality of the produced details.

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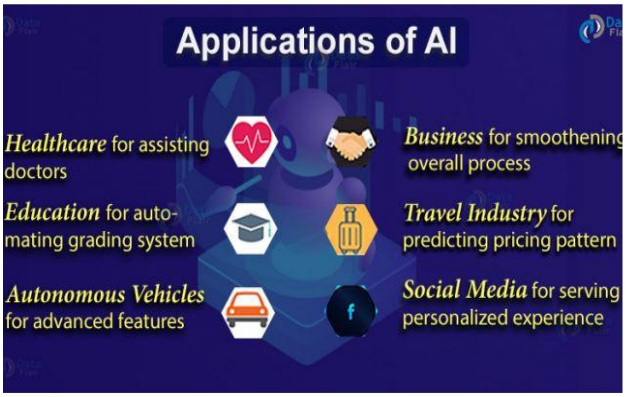

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