The World of Artificial Intelligence

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ABSTRACT

Now a days all the factories and companies mostly use only the machines to done the works. In this decade 79% of companies have already adopted the artificial mechanism. The main reason for implementing a machines is simply to get a profit only. But how the machine will do this work, only the concept of Artificial Intelligence, shortly called AI. The word tell Artificial means it is not a natural and it is create by the human, And Intelligence means think very smart and correct in automatically. Our future will fully merge with automation. In this paper represent the introduction to AI, A brief history of AI, classification of AI, various programs for develope AI, and current technology with AI such as machine learning,deeplearning,neuralnetwork,natural language processing, AI with IoT, cloud AI and AI with 5G.

KEY WORDS: AI, machine learning,deeplearning,neural network, cloud AI, and NLP.

1. INTRODUCTION

Science and technology growth is very essential for create a modern world. This global have a lot of new technologies but all the technology only help to do a simple tasks only. In 1950 Alan turing conducted a turing test, and it is a method used to determind the intellegence of the machines. This ia a ignite point of the powerfull artificial intelligence. AI is definitely the future of the world. It will drive the economy of tomorrow. The robot is fully designed by the concept of AI.What are the works are not done by the human that is also done when we use robot. Note the robot is not only the application of AI, But it is one of the main applications of AI.

Artificial intelligence is a technology which is used to develope a machine with human knowledge. In 1956 the word AI was introduced by JohnMcCarthy at Dartmouth college. The four acceptable word for AI is thinking humanly,actinghumanly,thinking rationally and acting rationally. The well designed AI machine should have the basic knowledge like speech recognition, visual perception, translation,decision making and responding capability. AI is used in lot of real life places like health care, auto mobile, finance, surveillance,socialmedia,education field, space exploration, video gaming, agriculture and E-commerce. The AI is updated by each actions.

2.HISTORY OF AI

1923- The word Robot was introduced by Karel Capek in London.

1943- Laid of Neural Network foundation

1945- Isaac Asimov introduced the word 'ROBOTICS'

1950- Alan Turing conducted a Turing Test(Determining the intelligence for the machine).

1956-John McCarthy introduced the term "ARTIFICIAL INTELLIGENCE"

1958- The LISP programing language for AI invents by John McCarthy.

1980-Year of Artificial Intelligence.

1985- The drawing program(aaron) created by Harold Cohen.

1997- The Deep Blue Chess Program beats the chess world champion Garry Kasparow.

2000-Robot pets was introduced in the marketting.

2005-Autonomous robotic car was launched

2011-Question answering knowledge introduced to the machines.

3. ARTIFICIAL INTELLIGENCE

John McCarthy says "The science, engineering of creating intelligent machines by intelligent computer programs". The goal of AI is the machine works intelligently and indipendently. Finally the AI machine is a combination of human brain power and artificial mechanism. The following contributes are used to create perfect artificial machine, computer science, psychology, neuron science, biology, mathematics, sociology, philosophy, linguistcs and engineering. The AI machines should adapt a new situation. This AI technology is currently used by the famous companies such as amazon, microsoft, facebook, samsung, lenovo, adobi, intel and ect. Task domains of AI is ordinary tasks(understanding, speeching). and formal tasks(games theorm proving) and expert tasks(manufaturing, scientific analysis)

Why we need Artificial Intelligence? Human beings is not possible do work upto10 hours per day, Robots only need a electricity. If the electricity is available, the machines will do its work automatically. Incresing business profit, do critical works, analyse the future needed and so many things are acheived by AI. It is used to translate the language,faultfinfing and monitoring.

4. CLASSIFICATION

1.Based on Capability, 2.Based on Functionality

4.1. Based on Capability
4.1.1 Narrow AI

Narrow AI is also called as weak AI. It is a AI that cannot solve the unfamilierproblems.It has only the narrow range of abilities. By using natural language processing we can design a narrow AI. The real time application of Narrow AI

is image recognition, face recognition, voice assistants, IBM's Watson, self driving cars.

4.1.2 Genaral AI

Artificial General Intelligence has the knowlege from one domain and transfer to other domain. It is also called as Strong ,Full AI, General intelligent action. It has a ability think,act and react like human. Notable achievement of AGI is K-Supercomputer and Tianhe-2. Still the system with AGI is under researching and it take more effort to create such a system From 2017 more than 40 organizations are interested to involving the research under this AGI.

4.1.3 Super AI

It has a ability to complete all the tasks better than human.The pointed knowledge of Super AI is understanding human relations, emotions. It is outcome of General AI. It have a knowledge of think independently

4.2. Based on Functionality

4.2.1 Reactive Machines

The most basic types of Artificial Intelligence are purely reactive machines. This AI did not store the past experiences and future activities focus on only the current scenarios. It helps to improve the AI sytem to play the games with better experience. The bset example of reactive machines of Google's AlphaGo and IBM's deep blue systems.

4.2.2 Limited Memory

This types of machines are specially made for stored the passed actions For example, Self driving cars. Most current application fall into this category.

4.2.3 Theory of Mind

machines that begin to interact with the thoughts and emotions of humans. This is at a conceptual stage and work in progress as we speak.

4.2.4 Self –Awareness

The final step of AI development is to build systems that have consciousness. Self -awareness is a extension of the theory of mind the concept of smart physically materialized yet, but when it happensthe gadget should be able to demonstrate the desire for certain things and recognized its internal feelings.

5. PROGRAMS FOR AI

5.1 AIML (Artificial Intelligent Markup Language)

Developed by Richard Wallace in the year of 2001. It extended from XML. The latest version of AIML is 2.1.

5.2 IPL (Information Processing Language)

Devoloped by Allen Newell, Cliff Shaw, HerbetA.Simon in 1956. It is used to give a solution for small problems such as dynamic memory allocation, recurson, data types and support multi-tasking.

5.3 Lisp

The second ancient high level programming language. Designed by John McCarthy and developed by Steve Russell, TimothyP.Hart and Mike Levin in 1958.

5.4 Smalltalk

This is a Object Oriented Language designed by Alan Kay, an Ingals, Adle Goldberg in 1972. It creates for educational use.

5.5 Prolog

Prolog is a logic programming language for AI,devoloped by Alan Colmerauer Robert Kowalski in 1972. File name extension for prolog is .pl, .pro, .p

5.6 STRIPS (Standard Research Instititute Problem Solver)

This language based on automated planning. It has some components likes {P,O,I,G}. It was devoloped by Richard Fikes and Nils Nilsson in 1971.

5.7 Planner

It is a hybrid of procedural language and logical language designed by Carl Hewitt in 1969. It helps to give a interpretation to logical sentences.

5.8 POP-11

POP-11 is a both compiled and interpreted programming language. It supporting first class function is one of the POP-11. poplog system is the core language of POP-11.

5.9 R

R is a most use new style Artificial Intelligence, Neural network and machine learning programing language. It was designed by Ross Ihaka and Robert Gentleman and devoloped by R Core Team in 1993.

5.10 Python

Python is a high level interpreted programming language devoloped by Guido van Rossum in 1991.It is widely used for AI with including machine learning, neural network, natural language processing. It is being used widely today.

5.11 Java

Java is a Object Oriented general purpose programming language. It is also used to devolopea AI machine.

5.12 Haskell

This is the programming language for AI. The only drawback is little difficult to do works with graphs.

5.13 Wolfrom Language

It includes the capable of integrated machine learning. It accepts many types of data such as numerical, time series, text and image. It designed by Stephen Wolfram and developed by Wolfrom Research in 1988.

5.14 Julia

It establishing machine learning by native or non-native libraries.

6. LATEST TECHNOLOGIES WITH AI

The various technology under coming various technologies such as Machine Learning, Deep Learning, Neural Network, Natural Language Process, AI with IoT, AI with Cloud, AI with 5G.

6.1 Machine Learning

It is a subset of Artificial Intelligence that can accomplish specific task such as playing chess recommending your next netflix TV shows and identifying spam emails. It is a technique that can learn from given data. It using some set of instructions and convert inputs to outputs.

6.2 Deep Learning

A technique perform machine learning inspired by our brain's own network of neurons. It gives more accuracy compared to machine learning. Speech recognition and image recognition by exposing multi layered neural networks to vast amount of data.

6.3Neural Network

Artificial Neural Network are inspired by biological neural networks. The collection of connected uniques are called Artificial Neurons. It was creating by Warren Sturgis McCulloch and Walter Pitts in 1943. Calculator is the first computational machine. Types of Neural Network is DFF, SVM, BM, DCN, DN, NTM.
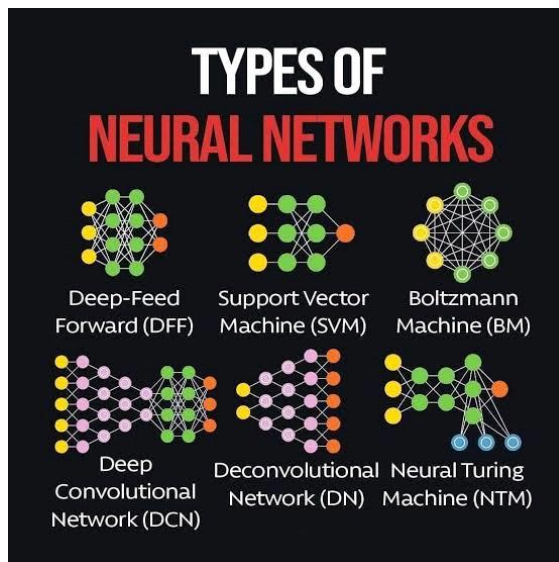
6.4 Natural Language Process

The Interdisciplinary field of computer science linguistics. It gives ability for computers to understander human language. Natural language processing has two parts such as natural language generation and natural language understanding. Example : Google voice assstant

6.5 AI with IoT

Now a days the world fully adopted with IoT. It capture large amount of datas from multiple IoT devices. Benefits of AI enabled IoT is boosting operational efficiency, increase IoT scalability. The example of AI with IoT action is manufacturing robots, self driving cars, smart thermostat solution.

6.6 AI with Cloud

A cloud is a world which tells we can access the data from anytime at anywhere. AI cloud increase the efficiency of siri, google chrome, amazon alexa in our lives everyday. The clouds are classified into four categories likes Private, Community, Hybrid, Public.

6.7 AI with 5G

5G is a latest upcoming mobile communication technology. AI is making 5G better in the network on the device. In 5G AI is used to detect the network traffic. It provides enhanced service quality, simplified deployment, higher network efficiency and improve network security.

7. APPLICATION OF AI

The various applications are creating robots(bandicoot robot), Autonomous vehicles (drones and self-driving cars), Medical diagnosis, Creating art (poetry), Proving mathematical theorems, Playing games (chess), Search engines(google search), Online assistents(siri), Image recognition in photographs, Spam filtering, Targetting online advertisements, Telecommunications maintanence, Online and telephones customer service.

8. FUTURE AI

Now we are living in a modern world creats by a human. In next decade we will live a artifially world by machines.May our next genaration child birth will done by the robots in all hospitals.We are waiting to see the artificially gadgets, Automatic vehicles and and many adwanced machines.

9. CONCLUSION

In this paper we have reviewed the majour aspects of artificial inteligence like evaluation, classification, programs used for create a Al machines and latest technology with Al such as machine learning,.deeplearning, neural network, natural language process,AI with IoT, Al with cloud and Al with 5G. We discussed technology under comes Al. By collabrating all the technology we will make a wonderfull artificial world.

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