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EMERGING ASPECTS OF AIFOR SMART LIFE

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ABSTRACT- Nowadays Artificial intelligence makes our life easy and comfortable that is hard to imagine that to survive our life without AI technology. We all know that AI is a precious gift to human being. Recently it is used in robotics, education, agriculture, computer vision, cyber security, face recognition, speech recognition, self driving cars, medical image processing, biometrics, bioinformatics, satellite control, disease detection, drugs development, network developments, manufacturing, business, healthcare and medicine. In the digital era A provides the best results in all most all the domains. This article helps to understand the emerging aspects of AI in various fields.

Keywords - [Artificial Intelligence, Agriculture, Deep Learning, Medicine, Machine Learning, Natural Language Processing, Robotics.]

1. INTRODUCTION

We need intelligence to solve a particular problem in efficient manner. Like human being machines having Artificial Intelligence (AI) can do thinking, learning, reasoning, makes meaning fuldecisions and solves the complex problem efficiently [1].

In the digital world smart machine sarevery much useful in our daily routine tasks; they become the needs of our life. Without a doubt, most things belongs to us are applications of AI such as smart phones, Air conditioners, Digital cameras, videogames, traffic lights, refrigerators, self driving cars, drones, robots, autonomous vehicles and machine setc. These applications of AI are work on a "smart" technology. AI is alatest growing technology that makes our work very simple. We know that today's smart machines work millions of times faster thanearlier machines. Recentlymanyresearchesaregoingbasedon

Machinelearning (ML) thatisasubdivisi on of AI. It Machine learning algorithm is used in the social networking site for example most of the busines speople use Facebook for their products and services developments. At present DLis the recentmostgrowingresearchareas. DL algorithm

sarewidelyusedindiseasediagnosis, drugsdevelopment, machinetranslation, objectidentification, in dustrialauto mation, marketing research, medicalre search, social network filtering, image recognition and sentimentanalys is and soon [2]. The following diagram Figure.1 presents the subset of Artificialintelligence.
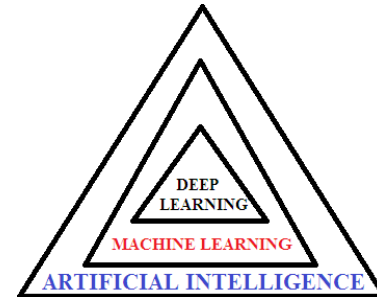
Figure.1 : Subset of Artificial Intelligence

Advantages of AI

Makes the system stolearnautomaticallyandget Hand lelarge volume of data:

Machine can handle better from the irexperience. ML is used to teach Machines the way to handle the data more efficiently. Wecansee the machinelearning algorithm sareused in our dailyroutineapplications. For example the popular searchenginesuchas Goog leworksonmachine learning algorithm basis. In addition, largevolumesofstructuredandunstructureddataeasily.

Reduce the errors: Unlike humans smart machinesdonotmakemistakes.Mostlyitprovidestheaccuratean derrorfree result.

- Save our precious time:Smart machines canperform any types of work rapidly so it saves ourprecioustime.
- Diligence:Unlike human being machine does notgettiredandfeelboredsoitcanworkfor24hours.
- Handleriskyjobeasily:Smartmachinescanhandlerisk yjobveryefficiently.Forexamplerobots are used in bomb deactivation, Space andoceanexploration.
- Takethe decisions rapidly:Smart machine workswith much higher speed compared to humans andproducetheresultsina fasterway.

1. **DisadvantagesofAI**
- Makes Humans Lazy: AI technologyismakinghumanbeinglazybecauseitautomatesthemajorityofthework. Nowadayshumansaremostly relying on the smart machines that leadsproblemtofuture generations.
- Unemployment:AItechnologyreplacestherobots
- for automation and risky job so it will create anunemploymentproblem.Itaffectstheyoungergenerationlife.
- Lack of creativity :Machines can perform only thedefinedtaskthatiswritingintheprogrambythe
- user.Itdoesnothavecreative thinking.
- Expensive :AI supporting machines required highexpensive hardware and software. In addition wespendmore moneyformaintenance [3].
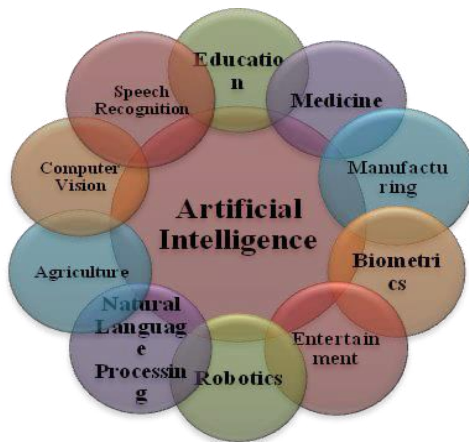
1. **Applicationsof AI**

Fig.2:ApplicationsofArtificialIntelligence

It is no doubt AI is used in numerous fields. Applications of Artificial intelligence are shownin Fig 2. Some of the widely used AI applicationsaregivenbelow.

Medicine

Nowadays the usage of Artificial intelligence isunavoidable in the field of medicine.AI is mostlyused in most of the medical fields like Cardiology, neurology, embryology, etc. Inrecentyears, ML algorithms are used to identify various diseases like cancer, braintumor, malaria and dengueinearlierstage and also monitor the patient's health condition. For the last one year we are in COVID-19 Pandemicsituations many researches are done to develop the drugs for Coronavirus. Computervisionisveryvaluable in the field of medicine. With the help of computer vision and signal processing technologiesdoctors can treat the patients remotely. Nowadays in most critical situation robots are used for treating the patient. It carriesouthundreds of clinicaltestssimultaneously. It can do stitching more accurate thana human doctor. Mostly it is used for complex surgerysuchas braintumors to reduce the degree of erroroccur [4] [5].

Agriculture

In agriculture the advancements of AI is used to increase the crop yield also we can easily predicts thetimeittakesforharvestthecropthusincreasingefficiencyoffarming. In manycountries Machinelearning algorithms are used to monitor the quality of soil and crops. Computer vision algorithms are used to detect crop diseases in earlier stage so the farmerscantaketheappropriatedecisionquickly. Thusincrease the production quality. Nowadays robots areused in plant crops, irrigation, weed control and insectdetection. Green house automation, simulationandoptimizationtechniques are more specializations of AI in agriculture [6].

Education

Computers revolutionized the teaching fieldinmany ways. Teachers make their notes presentation,educationalquizandvideoseasier.Ithelpsthestudents to understand their subjects easily and moreeffectively. Intelligent tutoring systems increase themotivationandlearningcapabilitiesofstudent.Teachersuset hesesmartandintelligentmachinesto preparestudymaterials,calculategrades,maintainattendance, access student data and evaluate studentperformanceinonlineprogramsandassessments.Nowa dayscomputersandinternetareusedforstudents and researchers to improve their research andcommunication skills. It is no doubt each and everypeople use search engine to clear their doubts easily.DuringthisCOVID-19pandemicperiodsmartphones and computers with internet are works as amajortoolfore-learning.

Natural Language Processing

Natural language processing is not a new one, inlast few years it plays a crucial role in human andmachine interactions. In addition, using NLP we candotranslation,informationretrieval,sentimentanalysis,sum marization,segmentationetc.NLPtechniques depend on machine learning to understandhumanlanguages[7]. Robotsareusedinhazardousworkslikeinspectionofradioactive materials,bombremoval,space exploration andocean exploration.It is veryhelpfulinindustries for handlingmaterial,cutting,welding,drilling,colorcoating,polis hing,etc[8].

Computer Vision

The objective of Computer vision is to recognizethedigitalimages. Itismostlyusedinmedicalimaging, biometrics, surveillanceandobject

SpeechRecognition

Speech recognition is used to recognize phrasesand words in our spoken language and translate it intoamachineunderstandable format. Now a daysitisused to compose a text message and convert the text message to speech. In today's technology-drivenworldvarious DL algorithm sareusedin Speech recognition.

Robotics

Robotics is one ofthe hottest subfields ofAIthat is used to design intelligent machines. Robotics ismostlyusedinmilitary,medicine,industries,exploration etc. In the digital agerobots are a boonfor the people.Due to less blood loss, less pain andscarring,lessrecoverytimeandsmallerriskofinfection Robots are helps to the surgeons in complexsurgery. recognition. In military to detect the enemy soldiersand send the missile to the specific target area thistechnologyisused.Computervisionisusedinmedicinetome asuretheorgandimensions,bloodflowandfindthe structureofbrain.

In addition Computer Vision and ML alsousedtoidentify the tumorin brain or other parts ofthebodyinearlierstage [5].

Biometrics

Nowadays Artificial intelligence with biometricstechnologyisusedbycompaniesandgovernmentsina variety of applications for identification. Emergingbiometrics based identification is used in most of thesecurity applications such as Banking security, ATMsecurity,E-commerce etc.

Entertainment

NowadaysArtificialintelligencegrabsuser'sattention in Entertainment. Using the advancement ofAI technology we can play games, watch movies andsportswithrealeffects.TodaytheVirtualrealitytechnology and deep dreaming gives more interestingand immersive 3D visual experiences to the users inmoviesandgames[9].

Manufacturing

AI plays an important role in Manufacturing. Weknowthatdronesandindustrialrobotshavebeenplayingagre atroleinmanufacturingindustry. AI with deeplearning helps in manufacturing to lower the operational costs, increase the productivity and reduce the wastage of material. Machinel earning algorithms and Complex AI algorithms like artificialneuralnetworksaregeneratingtrustworthypredictions regardingthestatusofassetsandmachinery [10].

Conclusion

In the modern world AI is a great complement forthe people. We can't imagine that a world without AI technology. AI makes our life smart. It has given precious life style for us. It is the reason behind the emerging development of AI. Nowadays there are nothings without AI technology. In each and every placewe can see the applications of artificial intelligencesuchassmarttelevision,smartrefrigerator,tra fficlight,selfdrivingcarsetc.Nowadaysmostofthe researchis going on AI technology. In fewyears itwill reach a great status. It is for sure that ArtificialIntelligencetechnologywillruletheworldinfutu re.

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