

A Disquisition on Artificial Intelligence and Its Significance in ME-BAD

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Abstract

Artificial intelligence (AI) is software which is designed in such a way that it can react as humans with natural intelligence (NI) and which can lessen the human work load. AI is a kind of a software or application which is developed for making decisions and resolving problems in real-time. It can be used for designing a model for the systems which must have an ability to recall things as human being and knowing the criterion, and seize the images insight, learning from the mistakes and adopting for a self execution whenever it is essential. AI is related to more than one branch of knowledge such as computer science, linguistics, psychology, biology, and philosophy for significant research. This paper discusses about the applications of the AI in the field of: (i) Medical field, (ii) Education, (iii) Banking and Finance, (iv) Agriculture, and (v) Daily life and concludes by examining the future potential.

Keywords: Artificial intelligence (AI), Natural Intelligence (NI), Machine Learning (ML), Natural Language (NL)

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INTRODUCTION

Nowadays, companies, media and political and business organizations have shown tremendous attention and investments in AI. It all started back in 1956 by Professor J. McCarthy at Stanford University, Professor M. L. Minsky at the Massachusetts Institute of Technology, and Professors H. Simon and A. Newell at Carnegie Mellon University along with C. E. Shannon at Bell Labs, N. Rochester at IBM, and other scholars, who first established the concept of “artificial intelligence” at Dartmouth College in the US [1]. After 1970, AI has stretched into research fields, pattern recognition, machine learning, robotics and intelligent systems. With the present demand of the internet, sensor devices

and exposure of big-data and huge building of e-commerce trend and cyber space, blend of data and knowledge in society have lead to the advanced stage of AI. Now the intelligent systems are spread over all the areas including Medical field (M), Education (E), Banking and Finance (B), Agriculture (A), and Daily life (D), which include transportation, logistics, smart products, manufacturing as well as autonomous cars etc. (Figure 1). So in this paper, Lets us look into the applications of AI as ME-BAD by taking each beginning letter of the different areas which are mentioned above. Now, let us dig in to the future of AI and its significance in different areas; and conclude with AI as a boon or curse to the upcoming generation.

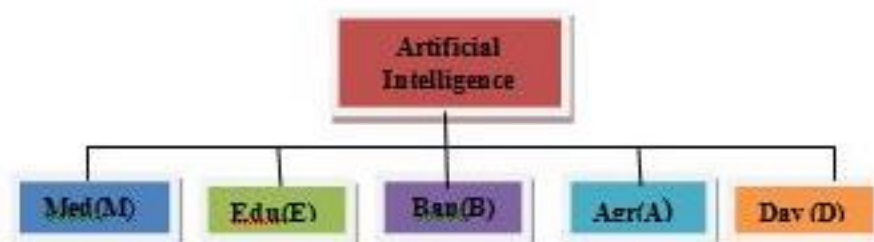


Fig. 1: Block Diagram of Artificial Intelligence.

APPLICATIONS OF AI

Applications of AI in Medical Field

AI in medical field investigates the complex information and converts it into human readable form. The essential aim of AI is to make connections between the treatment methods and patient outcomes. For example, analysis forms, treatment convention advancement, medication improvement, customized drugs, patient check up's etc.

Diagnosis in Medical Imaging

The most developed utilization of AI in medical field is disease diagnosis. Machines are designed with the capacity to fizzle out commodious information from medical images, and raising the specified action in early diagnosis of numerous scatters. This approach has various applications in proactive diagnosis of the likelihood of stroke, tumor development and certain kinds of disease and allowing the doctors for the better treatment to their respective patients.

Virtual Nursing Assistants

AI based applications and chat bots support in a mind blowing way by projecting nursing assistants after the treatment from doctor's facility. It is available in advanced mobile phones and in some basic wearables. These AI-based gadgets are virtually connected to remind patients about their health solutions, and making their daily activity schedules. They also notify if there is any sudden increment in pulse, blood sugar level etc. [2].

Robotic Surgery

The medical realm has been hugely benefited from surgical robots. These have immensely extended a surgeon's capabilities by performing efficient operations. The da Vinci surgical system is a prominent example. Used since 2004 in Guy's and St Thomas' Hospital in London, the machine has four arms, which are freely moving and steadier than a human's, and a high definition display for showing surgeons X-Ray or MRI images during procedures. The da Vinci robot is a favourite of the ear, nose and throat, maxillofacial and gynecology departments.

Managing Medical Records and other Data

The beginning phase of social insurance is arranging and dissecting data such as restorative records and other previous histories. More generally, AI is utilized in gathering data, storing data, configuration and

re-configuration to give information in faster way and more predictable access [2].

Promoting Superior After-Care and Healthy Lifestyle

By using the AI and advanced gadgets, promising directions can be given to the patients and what kind of measures needs to be taken after post-treatment. Gadgets provide the exercises performed by them and recommend the need for the improvement if it is necessary for their healthy life style [3].

Applications of AI in Education (E)

If the program is written in efficient way, it can help in evaluating exam papers and coaching the students who are understudy.

AI can Robotize Fundamental Exercises

Evaluating class work, assignments and tests and exam papers can be repetitive work. And reviewers find lot of time wasted in it. And that amount of time can be utilized in connecting with understudy students, planning for class etc.

AI can Make Experimentation Learning Less Scary

Experimentation is a basic piece of learning, artificial intelligence could offer understudies an approach to test and learn in a moderately without judgment condition, particularly when AI coaches can offer answers for development. Truth be told, AI is the ideal configuration for supporting this sort of learning, as AI frameworks themselves regularly learn by an experimentation technique.

Applications of AI in Banking and Finance (B)

AI is hugely used in money related establishments and associations to keep their work in proper pace. Let us check how AI has made impact on banking and finance:

Fraud Detection

AI can be used in fraud detection if any kind of un-authorized activities or password breach can be detected and stopped using AI algorithms [4].

Portfolio Management

The best advisory robo guide presents for the customers to make their future plans. By asking the advice for the AI programs, regarding the savings can be made according to the wages for the future purpose.

Banking Chat Bots

Chat bots are AI programs which engage human dialog, which helps humans in assisting

with the customer queries and doubts regarding the details of the bank, e.g.: 'Eva' the first chat bot dispatched by HDFC bank [4].

Applications of AI in Agriculture (A)

Agriculture robots are expected to replace the human workers. These robots come with advantages.

AI to Determine Time Sowing

Microsoft's Cortana AI Suite presents the summary to determine a healthy crop. This program launched among seven villages of Andhra Pradesh has approximately 175 farmers involved in the program. These farmers were informed to wait for few days until the SMS which is sent by the Microsoft and begin cultivating and sowing. Farmers followed the instructions as given by the programmers. So later, finally the work paid off. A record yield with an increase of 30 to 40% was noted. The right time for sowing reduces the risk of yield loss due to pesticides and also increases crop efficiency by using climate data [5].

Weed Control

Blue River Technology, a company from California has succeeded in creating technology which is a fusion of computer vision and ML that induces the farmers to reduce the use of toxic substances by sprinkling it only where weeds are present, which optimizes the old methodologies of agriculture [6].

Automated Irrigation Systems

These are created to utilize real-time ML to regularly maintain desired soil conditions to increase average yields. Not only does this require less labor it also has the potential to drive down production costs [5].

AI in Agriculture Industry

It falls in three categories:

Agricultural Robots: Companies are creating autonomous machines to handle essential agricultural tasks such as production of crops at a higher quantity and speedier than human laborers [5].

Crop and Soil Monitoring: Companies are influencing towards computer vision and deep-learning algorithms to process data captured by drones or software-based technology which is built in satellite to capture images to observe crop and soil health [6].

Predictive Analytics: ML models are being developed to keep track and predict various

environmental effects on crop yield such as climate changes [6].

Applications of AI in Daily Life (D)

AI massively affects our daily lives. For the majority of us, it is in our telephones, it is helping us carry out our occupations all the more effectively.

Transport Apps like Ola and Uber

Figuring ideal pickup areas, predicting the costs based on the traffic and the distance and allocating the vehicles for the customer which are near to the respective locations, which are all done by the AI [7].

Video Games

Far Cry and Call of Duty games make absolute utilization of AI, killing the opponents in the game and able to discover activities that may be added advantages to their survival. Finding the new paths and weapons needed for the combat, finding the new persons which are controlled by the AI and seeking help from them for the further levels in the game [8].

Spam Filters

E-mail inbox is a exact place for AI, spam channel is the best innovation effectively done in the mail box using ML algorithms, Gmail effectively filters 99.9% of spam [7].

Facebook

There are around 2 billion clients on this platform. Face book possesses one of the biggest datasets on the earth. Its clients share huge amounts of data everyday in the form of text, images, and videos. So, it maintains the whole data and the application. Also the maintenance of the security for the data is maintained by the AI tools [7].

Voice to Text

A standard element on mobiles today is voice-to-text. By saying a specific expression, you can begin talking and your telephone changes over the sound into text. These days, this is a moderate routine assignment; in the past, the precise computerized interpretation was the capacity of most exceptional PCs. Google utilizes artificial neural systems to control voice look, e.g., Siri, Cortona, Google assistant etc. [7].

APART FROM ME-BAD AI APPLICATIONS

Google Uses AI and Satellite Data to Stop Illegal Fishing

To fight against illegal fishing in preserved territory, Google developed an AI system

which identifies doubtful activities; so later on, the largest UNESCO heritage marine site located in the nation of Kiribati was obstructed by the Kiribati government about the illegal activities. The captain of fishing clearly refused the happening. But after presenting the proofs collected by Google using ML algorithms captured from the satellite images, he realized that he had been caught red handed and confessed the infringement of international law [9].

Examining Satellite Data and Identify Solar Panels Mounted on the Roof Top

Project sun-roof launched a program which made a Google AI system to inspect satellite data to examine the homes which placed solar panels on the roof tops of their homes and also it could spot which areas failed to collect solar energy. This resulted Google to design ML algorithms to fetch data from the satellite and pattern recognition algorithms which were written in such a way that it could spot solar arrays in satellite images. These are the best examples of AI powered systems for universal available datasets [10].

AI in Military

The implementations of robots and automatic missiles are increasing substantially. Including long orbit drone bombings, transportation of weapons will be handled by ML algorithms and AI technology. As per the survey from 2000 to 2015, the military organizations are spending 2.4 billion dollars to 7.5 billion and it is believed to be doubled by 2025 to 16.5 billion [11].

AI in Waste Management and Garbage Handling

AI already entered into waste management and scrap fetching. A firm called Zen Robotics has specialized in AI controlled robotic systems. The firm robotic waste sorting systems work so perfectly that it separates dry wastes and wet wastes. A fusion of software and hardware machine and various sensors continuously detects the waste flow; which senses the data in a real time [12].

AI as Programmer

Google's AutoML software recently developed a sequence of ML codes with higher rates of efficiency than those researchers who developed it [13].

THE FUTURE OF AI

Logistics Will Become Growingly Efficient

Kiva Systems, which was procured by Amazon for \$775 million in 2012, builds robots that can efficiently detect and ship items in Amazon's repository. The technology is already being used by the firm and is assumed to play an increasingly leading role in the company's pursuit for speedy and less expensive carriages. The robots are so proficient that they can work 24/7 and do not need a human intervention.

Mainstream Car Manufacturers will Launch Self-Driving Cars

Tesla company was first to launch self-driving vehicle. Later on, traditional vehicle manufacturers like Audi and Cadillac made a statement to release their own self driving cars in 2019. Volvo is also developing self driving technology which will become increasingly visible in 2019 [14].

Content will be Created Using AI

Earlier, writers used to waste hours and days, building content for their websites. Software like Wibbitz are now assisting publishers to create content and fascinating videos within no amount of time. The Associated Press is using AI tool called Wordsmith, designed by a company Automated Insights by applying NL to create reports, narratives based on data available. In future, readers can expect to see more broadcasting firms adopt NL and video prompting technologies [15].

Peer to Peer Networks Will Create Openness

Face book is already utilizing statistical prototype to assist systems to frame major decisions. Presearch is a company that is focusing to use peer-to-peer networking and AI to bring openness to the different search engines. Google owes almost 80% of the searching businesses, but still, only half of the public totally acknowledges how Google governs what content is to be displayed to a distinct user.

AI will Fight Challenging Diseases

AI and ML technology assists to recognize and examine illness to authorize new medicines, treatments and heal at fraction amount of time and cost [16].

AI will Help Governments Finding Criminals

By gathering the image of the casualty from the crowded places from the security camera can recognize using the strong AI tools and ML algorithms suspect can be found within no amount of time. By these methods, the crime rate will get diminished in the future, e.g., Traffic Jam is an AI tool used for finding human trafficking and helped in finding the victims in a real time in Pittsburgh. And recently in China, finding a murderer in 60,000 people crowded concert was done using the AI and drone technology [17].

PERFECT AI IS STILL A DREAM

When Face book's Chat bots Developed Their Own Language

"Bob" and "Alice", the chat bots designed by Face book had to be terminated as both started conversing in their unique language, violating programmers' algorithms. The bots were initially designed to assimilate and act as a broker, by imitating human trading and exchanging, but they were allowed to merchandise against each other. Though they were designed to chat in English, but they began to develop their own language that programmers could not crack.

When Mitra, the Robot Failed to Greet the Prime Minister

The Robot called Mitra was originated by Bangalore based company Invento Robotics to greet delegates at Global Entrepreneurship Summit. While the robot was programmed to greet PM Narendra Modi and Ivanka Trump with their names by opening the specific country flags, but it failed to do so. Because when PM was initially invited to hold Indian flag button, Ivanka also pressed the US flag button together and because of overlapping of the commands, Mitra failed to finish the programmed activity properly.

When Autonomous and Driverless Vehicles Turned Disastrous

The disastrous event involving Uber self driving car, a lady was executed during an experiment obstructing autonomous vehicle operations worldwide. The car was travelling on a partially lighted road. When women suddenly appeared from dark, the Uber self

driving Volvo which was driving at a speed of 61 kmph, failed to apply brake and resulted in a crash. Back in India, Delhi's first ever driverless metro met with an accident during its experiment.

When iPhoneX Face Recognition Could Not Differentiate Identical Twins

When Apple company launched its iPhoneX with much confidence, it was famous for its AI and ML abilities. Facial recognition was one of the key potentials that were exaggerated, but it was found to have a flaw for detecting similar twins.

CONCLUSION

AI powered technologies are emerging to help improve productivity and address challenges as faced by the industry. AI will create both effectiveness and brilliance. Rather than replacing human, they pave the way for better human interactions and bring enormous openings for business. Implementing AI effectively is not a plug in and forget option. Effective AI needs a lot of human act. Before concluding, just want readers to check my paper topic as it ends with a word "ME-BAD". Here AI is asking the question that "ME-BAD"? So, I am leaving this to the readers to decide whether AI is boon or curse to the society??

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