

ARTIFICIAL INTELLIGENCE: THE NEXT PHASE OF TECHNOLOGY*

BY

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ABSTRACT

Artificial Intelligence or AI is an imitation of human ingenuity in machines. This wisdom is displayed by machines but does not involve consciousness and feeling. This branch of Computer Science will allow machines to think and make decisions. Humans are still decades away from coming together to build the human brain directly but AI is the way humanity can navigate the future with its growing needs. However, AI will never be able to recreate human consciousness. AI includes many other fields such as mathematics, deep learning, neural networks, machine learning. These branches have also proven to be successful in many areas of the field such as robotics, security, transportation, voice recognition. Contrary to popular belief, AI actually creates new jobs and does not destroy and reduce human burden Highlights: Artificial Intelligence, Scientific Data, Data Mining, Opportunities.

KEYWORDS

Artificial Intelligence, Data Science, Data mining, Probability.

1 Introduction

AI is the branch of computer science with which we can build intelligent machines that can behave like humans, think like humans, and be able to make their own decisions. Artificial Intelligence is made up of two artificial words that describe something made by humans and ingenuity that refers to the ability to think for oneself, which is why this makes artificial intelligence "man-made thinking". This field is built on the idea that one-day machines will be able to think or in other words, we can replicate the element that makes us human, our intelligence and our consciousness. This may sound like sci-fi or the concept of the new age but

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the fact is, it has been referred to such things in myths and other writings, writings, and antiquities as well. research but has always played a major role in transforming industries and operating as we know it today. With the ultimate goal of creating awareness, AI goes through several stages of editing, consulting, data analysis, predicting results and acting accordingly. AI also includes the use of mathematics and probability as well as various other mathematical tools (neural networks and machine learning are largely based on these.)

1.1 Elements of AI

The basic elements of AI are :

1. The Human Element

This refers to the link between humans and the machine. A simple machine or algorithm to understand 0 and 1 language that is difficult to understand and manipulated by humans. So it comes down to the role of an interactive interface that can take direction from the user, work it out, and provide accurate results.

2. Knowledge Base

AI is working on analyzing existing data. The information nourished, will provide a more efficient effect. The knowledge base includes past results for reviewing and looking at specific types of patterns. AI analyzes data, analyzes and compares large clusters of information to provide the best results. It uses data algorithms and various other concepts stored to find a solution to an existing problem.

3. Algorithm set

The AI interface, although fed by a large amount of data, requires a specific set of commands or algorithms to process and process that data. Such algorithms are provided by system and data scientists working together using various mathematical tools such as arithmetic, probability, calculus, and algebra.

1.2 Components of AI

Imitating human ingenuity or creating artificial intelligence requires a number of qualities to focus on. These attributes rather than functioning as a separate entity function as the same components that contain the following elements. Integration between models depends on actions between data sets within different problem domains and the information available to solve problems on domains.

1. Learning

Reading can be divided into different ways. One of the easiest things to do is to beat and try. For example, during drug therapy a combination of drugs was tested until a cure was found. The system analyzes and remembers each combination and its effects. So when such a situation

arises and the system is in a position to release the solution as soon as possible or very quickly because it can produce. The process of remembering simple things like phrases or problem solving etc is known as Rote learning. Now let's say the system is built to find the time. So to create a word like "create" in the past the system must combine with the word "created" at least once. The best way to deal with this situation is to teach us the "law-ed" so that you can change the tense without meeting the word once. This method is known as Generalization.

2.Problem solving

Solutions to the problem are divided into two categories: special purposes and general purpose. Special-Purpose methods are specially designed to solve specific problems such as controlling the release of coolant from a nuclear power plant. The general purpose, on the other hand, works in a variety of problems such as instructing the robot to move right, left, forward, backward. In addition, the AI algorithm can be divided into two: classifiers and controllers. Pattern classifiers find a pattern that is very close to the problem. They serve as the backbone of AI programs. Classifiers are provided with data and views stored in pre-defined segment sets according to pattern matching between them. Therefore the more nourished data, the more accurate the result will be. Administrators are commanders.

3.Logic & Reasoning

Reasoning means creating the right conclusions for a task or situation. There are two types of thinking and diminishing thinking. In incoming consultation, common conclusions are drawn from certain situations such as 'All men are powerful'. In drawings, certain details are taken into account in order to draw a common conclusion. Example 'All cars have an engine. I have a car. So my car has an engine '. Logic is used for information representation and problem solving. There are different types of concepts used by AI algorithms :

- The concept of submission-Also known as the idea that submits a set of statements that can be true or false.
- First order logic - This type of concept is used to show facts about objects, their features, and their relationships.
- Mysterious concept - A type of concept that allows for the effect (truth) of the statement between 0 (false) and 1 (true)

This type of concept is used when the results are uncertain. These concepts are widely used in quantum computers.

- Accountable theory - This concept focuses on obviously uncertain results.

4.Recognition

Recognition means scanning and analyzing objects or the environment and its features and relationships with any type of organ or object at various depths and depths. Today the idea of artificial insemination has been developed to empower cars on open roads or traffic lights that serve as waiters in restaurants.

5. Understanding the Language

Language is not the only language we speak in some form, such as English or Hindi, and it also contains our speech and gestures. The way we move our eyebrows or change our facial expressions according to our emotions all fall into the realm of language. There are other AI algorithms these days that can learn facial expressions and express user feelings.

6. Neural network

The human brain is made up of hundreds of thousands of sensors that work every second of us and that helps us to analyze things, to see how they interact with each other through electrical activity. Together these neurons form the neural network of our brain. Similarly, AI has its own neural network in which a series of algorithms detect interactions between a data group. These networks can adapt to the input changes, so the need to rearrange the model whenever an installation / type of information is not required. The neural network includes a set of layers for connected areas. Each node is a perceptron (a controlled reading algorithm for binary classifiers). In a multi-line perceptron (MLP), perceptrons are linked to layers. Installation layer detects input patterns while the output layer contains a split according to the input patterns that can be edited. There are hidden layers that set up input sets up to a percentage of neural network error.

7. Machine learning

Machine learning can be part of AI that allows the system to read on its own. It supports the observation, data, or teaching of human intervention internally and externally and looks at patterns in previous decisions and thus provides positive outcomes or a problem-oriented approach. For example, machine learning algorithms are used by various companies to review past market trends to predict future sales and new ways to increase their sales.

1.3 Sectors of Artificial Intelligence

1. Genetic programming

As the human race evolved, powerful genes changed many generations to change the human race. Similarly, an inspired form of human origin, the genetic system uses an algorithm that performs random modifications, crossovers, for generations to find a solution for a user-defined function.

2. Data mining

Data mining is a process in which a large chunk of raw data is transformed into a useful set of information with the help of AI algorithms that look for patterns or trends, filter it, and bring a clean set of help data.

3. Pattern recognition

Pattern recognition can be a process in which a machine learning algorithm is used to distinguish and type large amounts of information on the basis of previously acquired information or mathematical records based on specific data patterns.

4. Professional system

A professional program mimics the decision-making ability of a human professional. These systems are designed to make complex decisions, acting in the way that experts would have done using a complex algorithm to think and use if-else structures

1.4 Approaches

The four most popular AI approaches are self-awareness, mindfulness, limited memory, and functional equipment. Self-esteem is a form of AI that is displayed within movies. It requires advanced technology and processing tools, which are not available today. Psychological theory provides a powerful machine for exploring its goal and helping to build other goals for other organizations in the same area in which it operates. The ability to respond to nature and learn from it is vital. Limited memory devices do not have the required memory capacity to store the amount of information needed for continuous reading and development. Functional machines, on the other hand, are devices that have no memory or experience that they will use to acquire.

2 Literature Review

2.1 Literature Review Table

Table 1. Literature Review Table

Sr. No	Title of Research Paper (Year of publication)	Author	Methodology	Strengths	Drawbacks	Future Scope
01	An Introduction to Artificial Intelligence (2020)	Minal Dhankar, Nipun Walia	Case Study	Better explanation and 4 cases studies		Better possibility to research using the case

						studies
02	Models for integrating artificial intelligence approaches (1998)	J.M. Corchado	Research	Explanation of different models of integration of hybrid systems	More models could be included	Robust Intelligent frameworks can be created by combining AI techniques
03	Implementation of E-Proctoring in Online Teaching: A Study about Motivational Factors (2020)	Carina S. González-González, Alfonso Infante-Moro, Juan C. Infante-Moro	Fuzzy cognitive maps methodology	Considering various factors for e-proctoring	This research is limited to the study of motivational factors in the implementation of e-proctoring in educational institutions	The limitation can be eliminated in future studies and extend this study to other types of factors that also influence this implementation, such as the study of the weaknesses of the different technological tools used by this remote

						supervision system
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2.2 Literature Review Description

The paper goes through 3 totally different analysis papers. 1st one focuses on Case Study, second on analysis and third one on implementation. The literature studied for this study was majorly specializing in towards introduction, group action totally different computing approaches and application of computing in e-proctoring softwares. within the literature review, the authors have mentioned all the factors that area unit touching e-proctoring softwares and the way computing may facilitate to ease the work..

3 Technology on which I am working

I have been engaged on the AI/ML model that has been enforced in Associate in Nursing e-proctoring code. E-proctoring code area unit wont to take remote take a look at. the coed vists the LMS and registers for the take a look at. Later, on the coed has got to provide Associate in Nursing onboarding communicating. during this communicating, the coed must provide his scan, ID scan, room scan, table scan and knuckle scan. These scans area unit checked employing a Machine Learning Model that has been trained with adequate tests for proper and incorrect scans. These results area unit once more checked by cubic centimetre Team. Once onboarding is approved, the coed will provide the particular communicating exploitation the e-proctoring code. The e-proctoring code uses Associate in Nursing AI model that takes screenshots of the student's machine at regular intervals, monitors his/her system. It additionally prevents the coed from exploitation multiple monitors, browsing different websites, etc.

4 Architecture

Figure 1. Schematic Diagram of Classification of AI

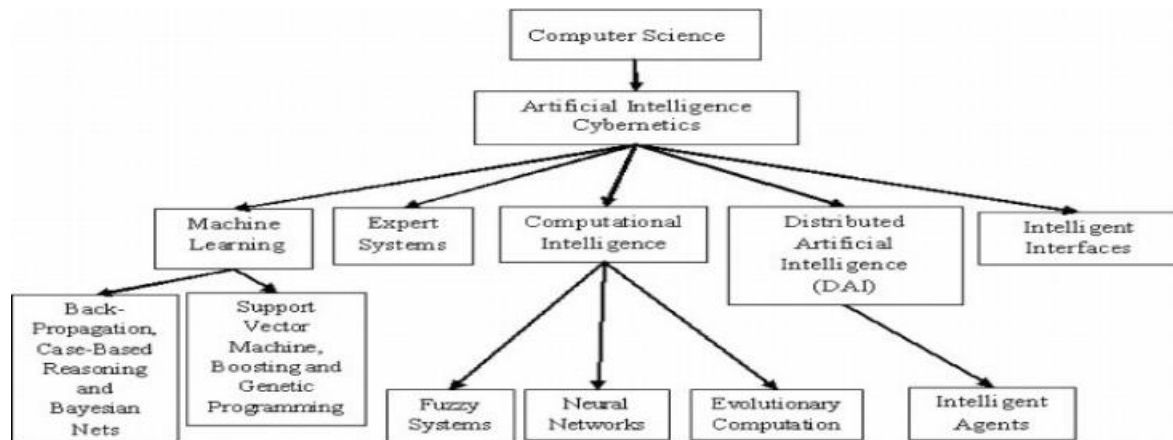
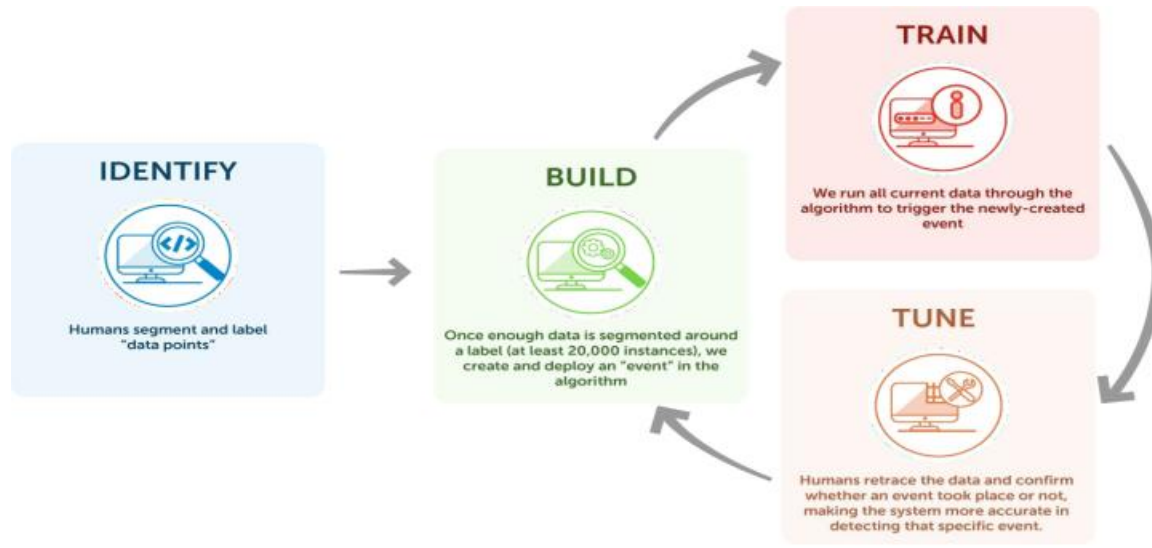


Figure 2. Remote Proctoring using AI



5 Future Trends

Having delineate AI and given a framework to raised comprehend it, we have a tendency to pivot to outlining some necessary areas for future analysis. These embrace however corporations might have to alter their promoting strategy, however customers' behaviors are going to be compact, and problems relevant to policymakers. as a result of AI will facilitate corporations predict what customers can purchase, exploitation AI ought to result in substantial enhancements in prophetic ability. conditional levels of prophetic accuracy, corporations might even considerably modification their business models, providing merchandise Associate in Nursingd services to customers on an current basis supported knowledge and predictions regarding their desires. Multiple analysis opportunities therefore emerge, associated with totally different client purchase behaviors and promoting methods. One particularly necessary analysis space might relate to however well prediction AI-driven algorithms might touch foretelling demand for extremely new product. AI is anticipated to play a crucial role in predicting not solely what customers wish to shop for, however additionally what worth to charge, and whether or not worth promotions ought to be offered. worth and worth promotions area unit necessary drivers of sales, so area unit a crucial space of analysis for promoting researchers. Thus, a crucial space for future analysis relates to however AI is best wont to predict what costs area unit optimum and whether or not or not worth promotions ought to be offered.

6 Conclusion

AI is at the centre of a replacement enterprise to form process models of intelligence. the most assumption is that intelligence (human or otherwise) area unit usually drawn in terms of image structures and symbolic operations which can be programmed throughout a pc . there's a lot of

dialogue on whether or not such Associate in Nursing fitly programmed pc would be a mind, or would simply simulate one, however AI researchers needn't expect the conclusion to that dialogue, nor for the theoretic pc that might model all of human intelligence. Aspects of intelligent behaviour, like determination issues, creating inferences, learning, and understanding language, have already been coded as pc programs, and inside terribly restricted domains, like distinguishing diseases of soybean plants, AI programs will vanquish human consultants. currently the nice challenge of AI is to search out ways in which of representing the reasonable data and skill that alter folks to hold out everyday activities like holding a wide-ranging speech communication, or finding their approach on a busy street. typical digital computers is also capable of running such programs, or we have a tendency to might have to develop new machines which will support the quality of human thought.

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