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MACHINE LEARNING AND ITS USES IN DIFFERENT ASPECTS

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ABSTRACT

Artificial Intelligence (AI) mimics human ingenuity with machines. This is a specialized branch of Computer Science (CS). Machine learning (ML) is closely related to AI. It allows a machine to read on its own without human interaction. Basically, in machine learning, there are special algorithms that can obtain data, process data (Mainly using statistically accepted methods) and predict the output at an acceptable distance.

Keywords: Machine Learning, Information Technology, Computer Science and Computational Mathematics.

INTRODUCTION

There are many fields of computer science used in machine learning. Play, data mining, pattern identification ... a few of them. Key features in Machine Learning Algorithms. There are Machines to learn many algorithms found in modern Computer science. But all should have three key features. Analysis-This means, how to check user hypotheses. In such tests, we can see that there are many important factors such as accuracy, forecasts… etc. Representation- This means, how to represent information. In modern Computer Science, there are various ways to do this. For example, data structures, neural networks, decision trees… etc. Optimization- That is, the user's system generates information. For example, Combinatorial Optimization, Convex Optimization ... etc. Machine learning equipment. Machine learning is closely related to computational mathematics. It means that many machine learning algorithms are based on mathematical concepts. There are three main stages in the Learning Machine. In machine learning, there are different categories based on different factors. At first level, ML relies entirely on its algorithms. Those algorithms can be divided into three categories. Supervised Reading The first class is supervised by learning algorithms. Such algorithms are required for human support both in training in the conditions described earlier by known data sets. This learning process continues until the model reaches an acceptable level. After that, the model can be applied to a new set of data. There are two subsets in supervised education; Pressure problems- If the output fluctuations are a continuous value (for example, weight, height, etc.), we can say that the supervised reading is for pressure issues. Separation problems- If the output variance is a discrete value (for example male, female… etc.), we can say that supervised learning is for differentiation problems.

SEMI READING

This includes training data sets as above. However, it is smaller than the one mentioned above for Reading. However, a large data set after training is used. There are many applications in the Semi Supervised Learning data mine.

Unreaded Reading

But the difference is, in non-striking algorithms you don't need any human support in training and using new data sets. Such algorithms automatically update the given data set and will run on the desired data set. In-depth

learning algorithms can work on complex tasks. Untreated reading has two small sets; Cluster Analysis- In such a problem, a group of data is presented in a variety of contexts. Such analysis has been used in the field of education to unite students. Organization - For such issues, it will find relationships in the data set provided.

Strengthening Reading

In this type of machine learning, the machine is trained to do by looking or making certain decisions. This prefers readability and error. The machine takes its actions based on its past experience and new choices. New information gained from past actions is used to make new accurate decisions. The need for machine learning The first application of pre-machine learning is data analysis. For data analysis, you need statistics, statistics, Algebra. Not that you need good information in the programs. There are various programming languages that can be used in math. A good example is the R system. Other than that, it's best to have a good knowledge of spreadsheet software like Microsoft Excel (You can use Visual Basic Program in Excel). Application for real life in Machine Learning

Internet Search Engines - Many search engines use Machine Learning to get better results from cyber searches. A good example is Google. This popular search engine uses Learning Machines to achieve the best search results for each individual.

Weather - Morden weather is used for most machine learning. With the use of Reading Machines, the accuracy of the forecast can be increased.

Playing Game - Applied Machine Learning, gamers can get a great gaming experience.

Anti-Malware Software - Today malicious activities are spreading on a large scale. Therefore, it is difficult to answer millions of such tasks. Machine Learning can be put in such situations to answer such cases effectively.

Face Recognition / Recognition - A person's face can have a variety of emotions. Therefore, machine learning can be used to find / identify the same faces for different emotions.

Speech recognition / recognition - Machine learning can be used to get people's voices well.

Blending - Blending is used in various fields to find pattern, groups… etc. For example, in genetics and Education cluswing is used for setting data groups.

Cracks have occurred in the field of mechanical learning 5-10 years ago. There are many great connections to Machine learning over the last 5-10 years. The following major leaks are listed below.

Speech Discovery - This is a great victory for the Learning Machine. Because, the use of any natural language varies from person to person. Seeing human speech even sometimes is difficult for us too. Identifying the correct word for natural language expression is a great achievement for the Learning Machine.

Optical Character Recognition - If your writing is still in image, you cannot edit it with a word processor such as Microsoft Word. But with the OCR's ability, your computer can extract words from a picture and print them in a word processor. This is a very difficult task, once it has been discovered in Asian languages such as Sinhala. Because, such languages have characters that can seem very similar to each other.

3 D Space - There are many 3D objects we encounter every day. 3D drawings, 3D games, 3D graphics… etc. Achieving the best 3D space in various fields is a great victory for the Learning Machine.

Integration - Working with big data and allocating them properly is a great achievement for the Learning Machine. In such an analysis researchers and scientists can point to a larger set of data and use it to make decisions.

Automotive Vehicles - Many researchers and scientists work in self-driving cars. There aremany advances in this field. Researchers and scientists are able to develop cars, trucks, SUVs that can drive without drivers. Google Cars are a good example of this.

THE CHALLENGES LIE IN THE FIELD OF MACHINE LEARNING

Today, Learning Machines have been growing rapidly day by day. There are, however, afew challenges, which still face researchers and scientists of the Learning Machines.

Big data - Today, it is important to work with big data. Especially for services such as finance, educational fields, there are many large data sets. By analyzing such details, it is easy to reveal details from a set of big data. Yet identifying relevant and accurate data patterns remains a challenge for machine learning. However, researchers are working on this challenge to find the right data patterns.

Optical Character Recognition - OCR is one of the best achievements of Learning Machines. However, the identification of handwritten letters in native Asian languages such as Sinhala, Sanskrit, etc. is still a major challenge for the Learning Machine.

Biomedical Image Analysis - Biomedical Image Analysis is a rapidly evolving field in Machine Learning. Necessary, Measurement techniques for Learning Machines to thoroughly analyze such images. However, it is still a challenge to use it with the low visibility content of these programs.

Cybersecurity - Today, Learning Machines play a major role in cyber security. But hackers are constantly changing their tactics. Working against automated switching processes is a major challenge for the Learning Machine.

E Learning - E-learning is big business today. But AI based E learning processes are still evolving today. There are many challenges to such programs. For example, accurately identifying a student and his or her learning style is a major challenge for the Learning
Machine.

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CONCLUSION

Today, Learning Tools uses cyber search on a large scale. Search engines such as Google Toolbar Identify the actual needs of the user. However, there are many problems with using different languages. Because, especially in Asian languages, some words have a different sense of place. Therefore, machine learning techniques are still being developed to identify the relevant needs of the user in cyber searches.

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