International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 05 Issue: 05 | May - 2021
ISSN: 2582-3930

Applications of Machine Learning in Daily Life

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Abstract: The main goal of this paper is to provide the applications of machine learning in our daily life. Machine learning is the science of getting computers to act without being explicitly programmed. In the past decade, machine learning has given us self-driving cars, practical speech recognition, effective web search, and a vastly improved understanding of the human genome. Machine learning is so pervasive today that you probably use it dozens of times a day without knowing it. Many researchers also think it is the best way to make progress towards human-level Artificial Intelligence. As we all know that we are living in an era of computer world. computer plays an important role in our life. Actually, the role of computer in our life is like "porridge without salt". We cannot imagine a life without computer. Now a days we are familiar with a new term machine learning. So, what is machine learning? What can be its applications? It's the time to think of machine learning.

Keywords:Machine learning,applications

I. INTRODUCTION

Machine learning is enabling computers to tackle tasks that have, until now, only been carried out by people. Machine learning is the process of teaching a computer system how to make accurate predictions when fed data. Machine learning is the science of getting computers to act without being explicitly programmed. In the past decade, machine learning has given us self-driving cars, practical speech recognition, effective web search, and a vastly improved understanding of the human genome. Machine learning is so pervasive today that you probably use it dozens of times a day without knowing it. Many researchers also think it is the best way to make progress towards human-level AI. The applications of machine learning can be:

Traffic Alerts (Maps)

Now, Google Maps is probably THE app we use whenever we go out and require assistance in directions and traffic. The other day I was traveling to another city and took the expressway and Maps suggested: "Despite the Heavy Traffic, you are on the fastest route ". But, how does it know that? Well, it's a combination of People currently using the service, Historic Data of that route collected over time and few tricks acquired from other companies. Everyone using maps is providing their location, average speed, the route in which they are traveling which in turn helps Google collect massive Data about the traffic, which makes them predict the upcoming traffic and adjust your route according to it.

Social Media (Facebook)

One of the most common applications of Machine Learning is Automatic Friend Tagging Suggestions in Facebook or any other social media platform. Facebook uses face detection and Image recognition to automatically find the face of the person which matches its Database and hence suggests us to tag that person based on DeepFace.

Facebook's Deep Learning project DeepFace is responsible for the recognition of faces and identifying which person is in the picture. It also provides Alternative Tags to images already uploaded on fakebook.

Transportation and Commuting (Uber)

If you have used an app to book a cab, you are already using Machine Learning to an extent. It provides a personalized application which is unique to you. Automatically detects your location and provides options to either go home or office or any other frequent place based on your History and Patterns. It uses Machine Learning algorithm layered on top of Historic Trip Data to make a more accurate ETA prediction. With the implementation of Machine Learning, they saw a 26% accuracy in Delivery and Pickup.

Products Recommendations

Suppose you check an item on Amazon, but you do not buy it then and there. But the next day, you're watching videos on YouTube and suddenly you see an ad for the same item. You switch to Facebook, there also you see the same ad. So how does this happen?

Well, this happens because Google tracks your search history, and recommends ads based on your search history. This is one of the coolest applications of Machine Learning. In fact, 35% of Amazon's revenue is generated by Product Recommendations

Self-Driving Cars

Well, here is one of the coolest applications of Machine Learning. It's here and people are already using it. Machine Learning plays a very important role in Self Driving Cars and I'm sure you guys might have heard about Tesla. The leader in this business and their current Artificial Intelligence is driven by hardware manufacturer NVIDIA, which is based on Unsupervised Learning Algorithm.

VIDIA stated that they didn't train their model to detect people or any object as such. The model works on Deep Learning and it crowdsources data from all of its vehicles and its drivers. It uses internal and external sensors which are a part of IOT. According to the data gathered by McKinsey, the automotive data will hold a tremendous value of $750 Billion.

Dynamic Pricing

Setting the right price for a good or service is an old problem in economic theory. There is a vast amount of pricing strategies that depend on the objective sought. Be it a movie ticket, a plane ticket or cab fares, everything is dynamically priced. In recent years, artificial intelligence has enabled pricing solutions to track buying trends and determine more competitive product prices.

How does Uber determine the price of your ride?

Uber's biggest uses of Machine Learning comes in the form of surge pricing, a machine learning model nicknamed as "Geosurge". If you are getting late for a meeting and you need to book an Uber in a crowded area, get ready to pay twice the normal fare. Even for flights, if you are traveling in the festive season the chances are prices will be twice the original price.

Google Translate

Remember the time when you travelled to a new place and you find it difficult to communicate with the locals or finding local spots where everything is written in a different language.

Well, those days are gone now. Google's GNMT (Google Neural Machine Translation) is a Neural Machine Learning that works on thousands of languages and dictionaries, uses Natural Language Processing to provide the most accurate translation of any sentence or words. Since the tone of the words also matters, it uses other techniques like POS Tagging, NER (Named Entity Recognition) and Chunking. It is one of the best and most used Applications of Machine Learning.

Online Video Streaming (Netflix)

With over 100 million subscribers, there is no doubt that Netflix is the daddy of the online streaming world. Netflix's speedy rise has all movie industrialists taken aback – forcing them to ask, "How on earth could one single website take on Hollywood?". The answer is Machine Learning.

The Netflix algorithm constantly gathers massive amounts of data about users' activities like:

- When you pause, rewind, or fast forward
- What day you watch content (TV Shows on Weekdays and Movies on Weekends)
- The Date and Time you watch
- When you pause and leave content (and if you ever come back)
- The ratings Given (about 4 million per day), Searches (about 3 million per day)
- Browsing and Scrolling Behaviour

Fraud Detection

Experts predict online credit card fraud to soar to a whopping $32 billion in 2020. That's more than the profit made by Coca Cola and JP Morgan Chase combined. That's something to worry about. Fraud

Detection is one of the most necessary Applications of Machine Learning. The number of transactions has increased due to a plethora of payment channels – credit/debit cards, smartphones, numerous wallets, UPI and much more. At the same time, the number of criminals has become adept at finding loopholes.
Whenever a customer carries out a transaction – the Machine Learning model thoroughly x-rays their profile searching for suspicious patterns. In Machine Learning, problems like fraud detection are usually framed as classification problems.

CONCLUSION

Machine Learning is a technique of training machines to perform the activities a human brain can do,bit faster and better than an average human-being. Today we have seen that the machines can beat human champions in various games which are considered very complex. We have seen that machines can be trained to perform human activities in several areas and can aid humans in living better lives.

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