**Machine learning. (by Nirav)**

**What does it do?**

What is machine learning? Defined by the researchers and engineers in this field. They call it the art of teaching computers or machine to imitate human like tasks. This process is done by giving in data which is analysed and returned in form of output as desired command. E.g. google search, it collects activity from your searches and display the next results that are interesting or related to you.

Machine learning works hand in hand with artificial intelligence, as they both have similar outputs such as information feeding and output from the algorithms set to make a prediction or a task.

As we are talking about it, machine learning is being used in our daily lives but we may not realize that. Especially with the current scenario where people work from home. Areas where machine learning is used right now are:

Virtual assistants / bots – this feature is very famous. It works along with artificial intelligence where interaction between the user and the automated system is carried out like normal. These systems can respond to questions asked or even typed. The procedure for that one has to initiate the conversation and the virtual assistant replies. E.g. of some virtual assistants are: Alexa an amazon product, Siri and many more which can take in commands from the user just by typing or speaking. E.g. if you want to know what the weather is, one can simply pass commands to Alexa asking what’s the weather like, this product even goes further giving extra details that are accurate

There are many activities related to machine learning out there that are booming because of the ease of access to data and information

With the enormous growth in this field, machine learning is booming and there are lots of visionary projects that will be built up in the future. At the moment research is digging deeper and deeper that is bringing solutions that no one has ever imagined of. E.g. soon even surgeons will be able to work from home. Researcher are working on how surgeries can be performed in emergencies where surgeons are not available. E.g. a heart surgery can be carried out totally by robotic arms by imitation done by a real surgeon from a webcam. Isn’t that amazing!

In the next 3 years, we might be able to work normally even if a pandemic situation comes up compared to what is happening right now. E.g. in a scenario of athletes such as cricketers. They can practice from home with simulators which can calculate the movement and speed of the ball and give an outcome as if it was played in a real life field. This is known to be machine learning pipeline, where automation is done, though it is at a low level but will be developing soon in the coming days.

Machine learning will be implemented almost everywhere in the coming future. Most of it right now is just used in basic or low risk levels. But 3 years from now engineers will have started implementing it on most activities.

To make this possible, other fields which will also have developed to a further extent will collaborate with machine learning and make the possible changes such as artificial intelligence, programing such as python or any other coding languages work best with machine learning, even mechanical items such as laser to make the change and bring advance technology. Even aspects such as objects can be considered e.g. cars like Tesla is using machine learning in their cars

**Impact of machine learning**

The impact of this technology will affect some individuals positively and some negative. An example in the field of education, machine learning can reduce a lot of costs and time as it can take over human like tasks. Think of a scenario where students will just have to sit in front of their computers and just talk to them and they perform all the tasks for you Amazing!

Similarly, it will also make progress in other fields where it will also have both positive and negative impacts way of working changes as well.

The positively impacted will be the educated or the young, as they have the capacity to learn and adapt concepts quicker and have knowledge to operate as we progress. This will be an advantage to them.

However, it will impact the elderly and non-educated the most. As things change and immerge in the fast growing field, these individuals tend to be affected the most as even basics tasks are taken over by machines. Think of a country like India, the age group past 50 might have never used a computer but even to perform the most basic tasks such as government services, they have to struggle. This is already affecting them in the present. Wonder what it would be after further progression.

It will affect the poor negatively as well as it becomes very difficult for them to get access to the most basic resources.

The advancement in this field will create job opportunities for the skilled in AI and Machine learning field as it will be in demand, but would affect other sectors where unemployment will occur because machines replace people. E.g. if K-Mart was to implement a completely automated system tomorrow, it will cause unemployment. Though it is expensive to set up, but in the long term efficient.

**How will this affect you?**

Personally, as an IT student, it is a plus point or a positive impact as the field is already familiar and also it will become a motive or a goal to be driven towards Machine learning. As the field will grow demand there are chances for success.

It will also help reduce workload e.g. basic tasks will be carried out by computers or any other machine for daily life basis. I can imagine a scenario where, in order to complete a java assignment, all one has to do is speak to the software instead of typing the code. Isn’t that incredible and time consuming.

The advancement of machine learning can affect family and friends as I will end up becoming less productive that is not good for my health as I would be relying on the solution, not moving away from the computer which will cause an impact to my health because there is no moving. E.g. not going to the bank because I will be able to do everything from my phone. I guess one can also become anti-social because we will be talking more to computers than people.

Personally it will create laziness to an extent even books can be kept in front of webcams and the output is given inform of sound. Machine learning to me will be an opportunity where I might change to be a developer in the field and get inspired to come up with personal projects or even working for a machine learning company where I will be able to produce solutions in that would be of good benefit for others.

I am also willing to take this opportunity to teach others that have interests in this field so they too can progress further in future.

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