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# Demystifying Machine Learning

*Today, more and more companies are using Machine Learning to improve their business decisions, increase productivity, deliver faster, respond sooner to the customer and do many more things.*

Every time you visit Amazon – you see product recommendations – either what you searched online or bought the last time or what other people bought ! Ever wondered how Amazon always has a recommendation that tempts you and finally lightens your wallet! Well, that's a Machine Learning Algorithm (/s) called “Recommender Systems” working in the backdrop. It learns every user's personal preferences and makes recommendations basis repeated set of activities.

“Machine Learning” is an often used word that packs a punch these days! Almost every exciting new development in the field of Computer Science and Software Development has something related to machine learning behind the veils. Microsoft's Cortana is Machine Learning. Object and Face Recognition in Computer Vision is Machine Learning. And like that, the Amazon product recommendation you just got was the number crunching effort of some Machine Learning.

## **Machine Learning : What is it really?**

Well, Machine Learning is a subfield of Artificial Intelligence which evolved from Pattern Recognition and Computational Learning theory. Arthur Lee Samuel, an American Pioneer in the field of Computer gaming and AI, defined Machine Learning as: Field of study that gives computers the ability to learn without being explicitly programmed. He coined the term "machine learning" in 1959.

Machine learning basically is the field of Computer Science that “learns” from data without human intervention. Therefore whenever Machine Learning is mentioned, people usually think of “A.I.” and “Neural Networks that can mimic Human brains , such as Self Driving Cars and the like .

## **Machine Learning – Applications**

As it is evident from the name, it gives the computer that which makes it more similar to humans: The ability to learn. Machine learning is actively being used today, perhaps in many more places than one would expect. We probably use a learning algorithm dozens of time without even knowing it. Some example are –

**Web Search Engine:** One of the reasons why search engines like google, bing etc. work so well is because the system has learnt how to rank pages through a complex learning algorithm.

**Photo tagging Applications:** Be it Facebook or any other photo tagging application, the ability to tag friends makes it even more exciting and happening. It is all possible because of a face recognition algorithm that runs behind the application.

**Spam Detector:** Our mail clients like Gmail or Yahoo do a lot of hard work in classifying the mails and moving the spam mails to spam folder. This is again achieved by a spam classifier running in the back end of mail application.

Thus, today, more and more companies are using Machine Learning to improve their business decisions, increase productivity, deliver faster, respond sooner to the customer and do many more things. This is irrespective of the size of the company, Small, Medium or Super Large! With the exponential growth of technology, we not only need better tools to understand the data we currently have, but we also need to prepare ourselves for the data we will have in the near future.

However, the flip side is that with automation technologies such as machine learning play an increasingly great role in everyday life, their potential effect on the workplace has, also become a major focus of research and public concern. The discussion tends toward a guessing game: which jobs will or won't be replaced by machines – which we will examine in the next article.

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