**EXPLAINING MY GRANNY ABOUT MACHINE LEARNING**

Machine Learning is concerned with systems which learn from experience. ML points towards systems getting smarter without human intervention. Don’t confuse ML with AI granny! Though ML is a subset of AI, AI’s perspectives are not that same as compared to ML’s. AI is all about creating intelligent machines and making machines smart. However, ML concentrates more on teaching a machine to do its job efficiently.

An example is Amazon: Whenever you search for something, they’ll give you recommendations. Like ‘customers who bought this also bought this’, ‘customers bought this item with these additional items’, this is on the basis of customers’ experience. It takes into account a customer’s browsing history and gives recommendations to you effectively. Thus, giving easy exposure to their products.

Also, when you search on Google, you get many articles in line. These articles are ranked on Google using SEO (Search Engine Optimization). The machine has learnt to rank these articles on Google using ‘Keywords’. ML has helped them get rid of this tedious task by making their machines learn.

There’s no need to program a device in ML. However, there’s ‘Deep Learning’ involved in Machine learning. Machine learning goes through the process of ‘extraction’ and ‘classification’ before giving out the desired output. This extraction and classification comes under the category of deep learning.

Machine learning is achieved by three categories of learning: *Supervised Learning, Unsupervised Learning and Reinforcement Learning.*

* **Supervised Learning:**

In this category, you teach a machine to act in a certain way. Thus, using this technique, the machine will give you results in the future. It’s like teaching your child the difference between chocolate and cookies. They’ll first learn about it when they’ll get exposed to it several times, they’ll keep that in mind and implement it in future. Thus, you have supervised your child’s learning.

* **Unsupervised Learning:**

This method is used when prior knowledge is unknown. You don’t have answers to account for the results. Thus, you take help of *clustering* and *association*.

In clustering, similar items will be grouped together.

In association, likeliness will be seen. You associate tasks on the basis of previous interests. It’s same like the recommendations you get while shopping on online sites.

* **Reinforcement Learning:**

Now in the previous example, you taught the child the difference between chocolate and a cookie. But now, you won’t teach the child. You’ll just reward the child if she/he gets the difference right or make a sad face when he/she will make a wrong choice. Eventually, the child will get the difference. Similarly, machines are taught using this principle of reward/punishment.