Emerging Methods for Early Detection of Forest Fires

PRIOR KNOWLEDGE

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Project Name	Emerging Methods for Early Detection of Forest Fires

Supervised learning:

In supervised Learning, the machine learns under supervision. It contains a model that is able to predict with the help of a labelled dataset. A labelled dataset is one where you already know the target answer.

In this case, we have images that are labelled a spoon or a knife .This known data is fed to the machine, which analyses and learns the association of these images based on its features such as shape, size, sharpness, etc. Now when a new image is fed to the machine without any label, the machine is able to predict accurately that it is a spoon with the help of the past data.

Real-Life Application of Supervised Learning:

➢ Supervised learning is used to assess the risk in financial services or insurance domains in order minimize the risk portfolio of the companies.
➢ Image classification is one of the key use cases of demonstrating supervised machine learning. For example, Face book can recognize your friend in a picture from an album of tagged photos.
➢ To identify whether the transactions made by the user are authentic or not.
➢ The ability of a machine learning, model to identify objects, places, people, and images.

Unsupervised Learning:

In unsupervised learning, the machine uses unbelted data and learns on itself without any supervision. The machine tries to find a pattern in

the unlabeled data and gives a response. Let's take a similar example is before, but this time we do not tell the machine whether it's a spoon or a knife. The machine identifies patterns from the give set and groups them based on their patterns,similarities,etc.

Real Life Applications of Unsupervised Learning:

It is a machine learning model based on the algorithm that if you buy a certain group of items, you are less or more likely to buy another group of items.

Semantically similar words share a similar context. People post their queries on websites in their own ways. Semanticclistering groups all these responses with the same meaning in a cluster to ensure that customer finds the information they want quickly and easily. It plays an important role in information retrieval, good browsing experience, and comprehension.

Machine learning models are used to predict the demand and keep up with supply. They are also used to open stores where the demand is higher and optimizing roots for more efficient deliveries according to past data and behavior.

Unsupervised machine learning models can be used to identify accident-prone areas and introduce safety measures based on the intensity of those accidents.