**1.What is Deep Learning ?**

* Deep Learning is a specific type of machine learning using neural networks.
* In simple words machine learning means the machine or software is able to learn or process the data by itself, there are multiple techniques to do it, deep learning is a specific technique to achieve the machine learning concept or to train a model.
* Deep learning’s aim to mimic human behaviour.
* Deep learning uses layers of neural networks connected in a series, multiple neurons can present in a layer.

**2.What is neural network and its type ?**

* Neural network is the combination of interconnected neurons(nodes).
* Which process or analyse the data by transmitting the data through the neural network.
* It is inspired from neural networks present in human, which helps in processing data and decision making.
* It is of 3 types -

a) ANN - Shorts for Artificial Neural Network. Used to process huge amounts of data.

b) RNN - Shorts for Recurrent Neural Network. Helpful to understand human language, emotion, etc. Used in natural language processing.

c) CNN - Shorts for Convolutional Neural Network. Helps in pattern recognition, object detection from image. Used in computer vision.

**3.What is CNN in simple words ?**

* CNN shorts for Convolutional Neural Network.
* It is a type of neural network used for pattern recognition, object detection, etc.
* It uses multiple layers called convolutional layers which extract different features or properties from data by applying filters.
* It is good at processing data like images, video, etc.

**4.Short Notes on Project Pipeline -:**

1. Data Collection and Data Loading :

As the 1st step we have to collect the data from any open source platform([kaggle.com](https://www.kaggle.com/datasets/elmadafri/the-wildfire-dataset)).

Then load that data on a platform on which we are going to create and train the model([google colab](https://colab.research.google.com/)).

1. Image Processing and Image Augmentation :

Image processing means make the raw images from the data set in the same size and resolution and filter duplicate data or images from the data set.

Image augmentation means producing variation of images from the data set like the same image with different structures and orientations.

1. Build CNN :

In this stage we have to build the CNN model(actual model) using python’s pre-built libraries like tensorflow, keras, etc.

We are going to use python because of its vast ecosystem and open source libraries.

1. Test and Evaluate :

After train and validate the model using the train data and validate data from the data set, we are test the model using the test data which is also belongs to the data set, to make sure that the model is working properly or giving an real time and expected level output.