WEEK 1 Assessment – Forest fire detection

1-What is Deep Learning?

Deep learning is like teaching a computer to learn by examples, kinda like how a baby learns by seeing things again and again. Imagine you show the computer lots of pictures of cats and dogs. Over time, it starts noticing patterns—like cats have pointy ears and dogs have floppy ears. Deep learning uses something called "neural networks" with many layers that's why it's called "deep" Each layer picks up details, and together they help the computer make smart guesses, like identifying a cat in a new photo you send or cat in a photo its like learning based on collection of data and then prediction new data .

2. What is a Neural Network and its types?

A neural network is a computer system inspired by the human brain. Think of it as a team of tiny workers (called "neurons") passing information to each other to solve a problem

There are different types:

Feedforward Neural Network: Basic type. Info moves one way—like a straight line from input to output. Used for simple tasks like predicting if you'll pass an exam based on study hours.

CNN : Great for images. It scans pictures piece by piece (like checking edges first, then shapes) to recognize things.

RNN -Good for sequences, like sentences or stock prices over time. It remembers previous info like predicting the next word in a text etc

3. What is CNN in simple words

CNN is a type of neural network made for images. Imagine you are solving a puzzle: you first look at small pieces (like edges or colors) then you will combine them to see bigger parts (like a wheel or a door) and finally you will guess the whole picture (like a car). A CNN works similarly It breaks down an image into tiny parts, uses filters to spot patterns and slowly builds up to recognize complex things like faces or objects. That's how your phone unlocks with face ID or Instagram detects faces in photos !

4. Create Short notes about pipeline we have discussed in the lecture

1st Data collection and data loading – we will use kaggle platforms data and we will load it into google colabs .here we have 3 type of file and inside each file there is 2 more sub set , train , test , validation in this 3 we have 2-2 sub sets .

2nd Image processing and image augmentation – here we will rectify the duplicate or false data that is called image processing then comes image augmentation it means taking a single data and creating multiple data from it like resizing zooming rotating etc

3rd build CNN with the help of tensorflow

4th test evaluate the whole process and finding the accuracy

Tejas Mishra