**Voice recognition using machine learning framework tensor flow** .

we can buit deep neural network to recognize spoken numbers.

1. **We use a labled data set of people saying numbers.**
2. **Then building nural network .**

Tflearn is a library featured for higher level API for tensorflow which is easier to read and prototyping .

Speech\_data is the second library used to fetch data from the web and helps to format it

The different learning libraries help to find hyperparameters .

1 of them we will use are – learning rate

Learning rate – greater the learning rate faster the neural network is , lower the learning rate more accurate neural network predicts.

Batch generator function download the set of wave files , each wave file is recording of a digit.

Then split batch nto traning and testing data by python’s built in next function.

1. **Train the machine**

Now we will train by building our own neural network.

One to one problem is classify images, input image and output label with no sequences.

One to many problem is image caption ,input image output sequence and all of them are abstractions.

Many to one that is sentimental analysis.

Input sequence and output type(positive/negative)

Now many to may problem is speech recognition

Output sequence of words with input is the sequence of waves.

Spoken words are sequence of words, we will use recurrent neural network.

Which capable of processing sequences.

So we will initialize network by calling tflearn data function. Where we pass out data into network and find the shape of our input data.

Tensor is a fancy word for the 3D dimensional array of data.

2 primary parameters for this is width and hight.

Width is the number of teachers extracted from our record instincts from speech data class

Height is the max length of recording.

Next level is to use tflearn’s lstm long short term memory function

In this record net, output data content is influenced, not only by the input we just put in but the entire history of out recording loop.

This is the function which remembers everything in its network.

We can specify our neurons to train the network.

Fully connected function , it will connect all the new neurons with previously entered neurons on the network.

We are going to recognize only 10 digits.

At end, We will use regression, so it will give output as a single predicted number.

1. **Testing**