**General-20231221\_193151-Meeting Recording**

December 21, 2023, 2:01PM

4h 0m 0s

 **RITHIKHA KALIDOS** joined the meeting

 **Mounika** 0:09  
So the recording is also started.

 **PATRISHIA PASCOAL MEENA RODRIGUES** joined the meeting

 **PRADEEP KUMAR SONI** joined the meeting

 **AALEKH SHRIVASTAVA** joined the meeting

 **Mounika** 0:21  
So if you have any doubts, please ask your questions in the chat.

 **SATYA PRAKASH PANDIT** joined the meeting

 **Mounika** 0:25  
At the end I'll try to answer all the questions.  
But today we are going to discuss about the coding related to the deep neural network.  
So in the first part I will explain you how we will initiate a deep neural network and how to do a little bit of modifications to the network which data set we are going to use and all.

 **REHAN AHMED SIDDIQUI** joined the meeting

 **HARSH NARAYAN CHAURASIA** joined the meeting

 **ABHISHEK** joined the meeting

 **Mounika** 0:45  
And in the second part, I'm going to explain you what is meant by a dropout and how we will use a neural network with dropout and the third notebook.

 **BIHARI MOHAN AWADH** joined the meeting

 **VIKAS VILAS PAWAR** joined the meeting

 **Mounika** 0:55  
I'll explain you about what is meant by early stopping and how to use deep neural network with early stopping using Keras and in the fourth notebook we will see what is meant by L2 and L1 regularization and how to use deep neural network with L2 and L1 regularization.

 **VISHAL SOPANRAO NANDA MANE** joined the meeting

 **AMODWALA HIMANSHU SATISH** joined the meeting

 **Mounika** 1:13  
And in the 5th notebook, we will see a different optimizers that are available to use for the deep neural network.

 **MEDAMARTI TEJO VARDHAN** joined the meeting

 **Mounika** 1:21  
I hope you all know the difference between machine learning and deep learning right?  
Learning right?  
So in the machine learning for all the algorithms, there will be like only one hidden layer.  
In case of deep learning, deep neural networks or transformer architectures, you will have multiple number of hidden layers.

 **MS TEAMS LECTURES SPECIFIC** joined the meeting

 **RITHU SAJI** joined the meeting

 **PURUSHOTHAM K** joined the meeting

 **Mounika** 1:41  
So first we will see how to construct a deep neural network using Keras.

 **HIMANSHU YADAV** joined the meeting

 **Mounika** 1:45  
So first you need to import the required libraries.

 **MS TEAMS LECTURES SPECIFIC** left the meeting

 **Mounika** 1:48  
In this case you need to import because we are doing using tensor flow, right?  
So you need to import the tensor flow and then we need to import the models as well as layers.

 **PRITAM MONDAL** left the meeting

 **NIDHI SAINI** joined the meeting

 **Mounika** 1:58  
Then we need to import the random function and the number number is for the basic operations, right?  
Numeric operations.  
So first cell is all about the importing the neural networks.  
And the second cell we are that randomly visualizing the seed.  
So here we are initializing the random number generator.  
Does anyone know how why we use this random seed for the deep neural network or any of the machine learning architectures?  
If you have, if you know the answer, you can type in the chat.

 **KASHIF SAIYED** joined the meeting

 **Mounika** 2:48  
Yes.  
So correct, HIMANSHU, SATISH.  
So you answered correctly.

 **JYOTHI KRISHNAN** joined the meeting

 **Mounika** 2:52  
So to get the consistent results across the experiments and to generate the same results every time S so the use is uh.

 **NAVEEN G** joined the meeting

 **Mounika** 3:02  
For example, in a deep neural network we use this to ensure the reproducibility in machine learning experiments, or in whatever experiments.  
If you want to get the same results, so you need to set the random seed.  
So that's why here also we are using this random seed and it assures that the sequence of random numbers generated is the same every time you run the code.

 **SHANKARANAND JHA** joined the meeting

 **ANANDPREMKUMAR P** joined the meeting

 **Mounika** 3:23  
So this is important for the reproducibility, especially when training the neural networks, deep learning or machine learning algorithms.

 **SUNANDA SHARMA** joined the meeting

 **SANDEEP KIRWAI** joined the meeting

 **Mounika** 3:32  
So here we are setting it as 42 and so this is how we use the comments and you can observe using this comments also and 2nd we are loading our data set.

 **P SAI RAMA KRISHNA** joined the meeting

 **AFTAB HASSAN** joined the meeting

 **Mounika** 3:44  
So for this purpose we are using MNIST data set.  
Does anyone know what is this data set?  
That's a widely used data set in the field of machine learning and computer vision, so it's transfer, modified National Institute of Standards and Technology datasets.

 **ALUPULA NARESH** joined the meeting

 **DARASRANI T** joined the meeting

 **Mounika** 4:05  
It's a collection of 28 cross 28 pixel grayscale images of handwritten digits.  
Yeah, deserts image hand returns and all.  
So we are loading it, I means it's already available in the Keras, so using TF Keras datasets MNIST we will load this and we are loading the data in the form of train and test.

 **UTSAV** joined the meeting

 **SASIKUMAR S** joined the meeting

 **RAKESH BAROLIYA** joined the meeting

 **RATHOD SAGAR GANGAKISAN** joined the meeting

 **MS TEAMS LECTURES SPECIFIC** joined the meeting

 **Mounika** 4:32  
So explain why drain exist whitest.  
So this is a classification problem.  
So given a samples, you need to say whether it's it's between like 0 to 9 digits.

 **JYOTI KUMARI** joined the meeting

 **UTSAV** left the meeting

 **Mounika** 4:42  
Whether this particular image is zero or one, or something like that.

 **JITENDRA DUA** joined the meeting

 **MS TEAMS LECTURES SPECIFIC** left the meeting

 **Mounika** 4:47  
So we have labels from zero to 9.  
That means it's a 10 class classification problem where you need to identify 10 digits ranging from zero to 9.

 **ASHA ALEX** joined the meeting

 **ARUN KUMAR MOHANDAS** joined the meeting

 **Mounika** 5:07  
But now let's run and see.

 **HARSHAVARDHANA GOWDA G K** joined the meeting

 **VENKATA RAJU KATTAMURI** joined the meeting

 **JESINTA ROZARIO** joined the meeting

 **Mounika** 5:30  
So someone asked me the question what is meant by random seed of 42?  
So 42 is just a number, so we set the random number generated to 42.

 **DIGVIJAY D V** joined the meeting

 **Mounika** 5:38  
Here you can try with different random number generators also.

 **PUSHPENDRA SHARMA** joined the meeting

 **Mounika** 5:42  
So this make sure that the code is reproducible in random processes, making the sequence of generated random numbers come the same across different runs of the program.

 **MOHOD SAGAR SUNIL** joined the meeting

 **Mounika** 5:57  
So now we downloaded it and we have loaded the MNIST data set.  
Now we will see what is there inside X train and xtext.

 **PRERNA WAGHRAY** joined the meeting

 **Mounika** 6:09  
So these are how we have so ground truth 5.  
So 5 digit will appear like this and the seven digit will appear.

 **PRITAM MONDAL** joined the meeting

 **Mounika** 6:17  
So to plot this we are using Matplotlib library and we have like a lot of other libraries but for the basic things we will use the Matplotlib library.  
And the size of datasets now we will see what are our data set train as well as test stats.

 **ARPITHA D** joined the meeting

 **Mounika** 6:35  
So this is how we have in the training, we have 60,000 samples and in the testing we have 10,000 samples.

 **MEGHA GOYAL** joined the meeting

 **Mounika** 6:43  
So we as we have 60,000 samples and our test means our shape should also be like 28 cross 28 because here the image dimensions are 28, crossed 28 and if you see the labels are also like 60,000 and then again in for whitest we have 10,000 samples and the labels are 10,000.

 **ABHISHEK** left the meeting

 **BRAMARAMBIKA AMBATI** joined the meeting

 **HARSHAVARDHANA GOWDA G K** left the meeting

 **Mounika** 7:04  
So on the extreme, extremist and white trained whitest.  
Now we are printing some sample data to see how it will be.  
So everything is stored in the form of numbers.  
So this is how it will be.  
So this is how the X train will look and XD test will look and why drain?

 **VENKATA SRIDHAR AMBATI** joined the meeting

 **JYOTI KUMARI** left the meeting

 **Mounika** 7:22  
Why test?  
So why drain?  
Why test are nothing but labels?  
So mostly you'll see the numbers between zero to 9.  
So now if you see we have like 60,000 samples and it's a big data set, right?  
So and we have numbers ranging from zero to let's say 254 something like that in the extreme and the same with X text also.  
So we need to normalize these numbers means we need to normalize to grayscale because if the image is in colored format it have three channels which are red, green and blue.

 **DIGVIJAY D V** joined the meeting

 **ARPITHA D** left the meeting

 **Mounika** 7:55  
I guess yeah.  
Three channels will be 3 colored channels, so we need to normalize it to grayscale.

 **HEMANTH M** joined the meeting

 **Mounika** 8:00  
Grayscale means we have only zero or one, so if it is having a pixel, one will be there, otherwise zero will be there.

 **YUVARAJ KUMAR N A** joined the meeting

 **Mounika** 8:07  
So why we are doing this?  
We are doing this because to reduce the data set dimensions size and we we need, we also need to have the same kind of representations.

 **ARPITHA D** joined the meeting

 **MANJUPRASAD N** joined the meeting

 **Mounika** 8:19  
So that's why we will use the grayscale image.

 **VYAS HONEY KAMAL VYAS** joined the meeting

 **Mounika** 8:22  
So this is how we will do the grayscale image.  
But now we will see the sample data.  
So if you see the sample data, then this is how it looks.  
Now we will run the DNN model.  
So first to create the DNR sequential model.  
First thing we need to use is.  
We need to create the model object so DNN model equal to models DOT sequential.

 **NILA R** joined the meeting

 **Mounika** 8:49  
So this code we need to run and again that we need to add the layers.  
So how many layers you want for example, so add dense layers specifying the number of units in each layer and the activation function used in the each layer.  
So normally in the neural networks we will have only one middle layer and after that we will have sigmoid or softmax activation function to get our output.

 **RATHOD SAGAR GANGAKISAN** left the meeting

 **Mounika** 9:12  
If it is a two class classification, we'll use sigmoid.  
If it is a multiclass classification, we use softmax.  
So in the same way here for deep neural networks also for each layer we need to use the activation functions also.  
So first we we added a dense layer which should contain 1010 because here the number of neurons which is equal to the number of classes.  
So that's why we put 10 and the activation function is the softmax.  
So why we are using softmax?  
Because it's like a multiclass classification, we have 10 labels.  
That's where we we are using softmax activation function.

 **DEEPAK RAM** left the meeting

 **Mounika** 9:49  
So if you print the summary, this is how it will be.  
So it has like a dense layer dense layer one layer two and then Slayer three.

 **DEEPAK RAM** joined the meeting

 **Mounika** 9:57  
So these are all the parameters.  
So if someone asks you what are your total parameters in this network, so this is how you need to answer and trainable parameters and the number of non trainable parameters 0.  
So if for any network, let's say in your quiz or in your exam, or if someone asks you about this parameters, trainable parameters and all, so you should print this model, dot, summary, whatever model is there so that dot summary.

 **SATHYA PRIYA V** joined the meeting

 **PATIL SHRIKANT TUKARAM** left the meeting

 **SAKTHI R** joined the meeting

 **Mounika** 10:25  
If you print this you will get this.  
So you just need to put the screenshot of this.

 **PATIL SHRIKANT TUKARAM** joined the meeting

 **Mounika** 10:34  
So this is just the image like how we are doing.  
So first one is the input layer dense layer and the second one is also dense layer.  
Third one is also dense layer and so on.  
So these are all our hidden layers.  
Now we will use regularization and optimization of DNA.  
So now what we need to do, we need to pass the optimizer generally what are the optimizers you have seen so far?  
So you can just list the names.  
Yeah. Adam.  
Adam Optimizer, So what else?

 **CHEEDAY BALA SRIHARSHA** joined the meeting

 **SAKTHI R** left the meeting

 **Mounika** 11:22  
Yeah.  
So someone asked me why should we use only softmax output layer?  
Because, yeah, this is multiclass.  
If we are using sigmoid then we will output like whether it's a binary classification like S or no.  
If I show you an image and if I ask you whether this image is containing dog or cat, in that case it's like binary classification and we need to use sigmoid as an activation function.

 **JESINTA ROZARIO** left the meeting

 **Mounika** 11:47  
So if it is multiple classes, let's say more than two classes in this MNIST data set example, the number of classes are 10 means we need to tell whether a particular image is a digit of 0 to 9, means we have 10 different classes to classify.

 **CHEEDAY BALA SRIHARSHA** left the meeting

 **Mounika** 12:03  
That's why it's multiclass classification and we will use a soft Max as an optimization.

 **RINU MICHAEL** joined the meeting

 **Mounika** 12:17  
And we we have also like other optimizations, but generally here we are using the stochastic gradient descent.  
So which is then fundamental foundational optimization algorithm.

 **PUSHPENDRA SINGH KHARSAN** joined the meeting

 **Mounika** 12:27  
So it updates weights by moving in the opposite direction of the gradient of the loss function with respect to the weights you all have studied this in your course, right?

 **PRITAM MONDAL** left the meeting

 **PRASHANT SRIVASTAVA** joined the meeting

 **Mounika** 12:35  
And then we are using categorical cross entropy loss because it's like we have different losses, categorical cross entropy, binary cross entropy mean squared error.  
Can anyone tell why we're using categorical cross entropy loss here?  
Why not?  
We are using the binary as well as mean square.  
Yeah, because it's multiclass classification, yes.  
So, as it is multiclass classification, we will use this categorical cross entropy loss and why we are using the metrics as accuracy we have like different metrics right?  
Though the metrics for classification, one of the metrics is accuracy like we have one score, we have a precision.  
We have recall when it comes to regression problem, we have other metrics.

 **DIGVIJAY D V** left the meeting

 **Mounika** 13:46  
So based on the problem setup, we need to use this metrics.  
So here it's a classification problem.  
That's why we are using accuracy as a metric.  
So someone asked me why uh went to how do you know when to use?

 **SANJEEV KUMAR YADAV** joined the meeting

 **PUSHPENDRA SHARMA** left the meeting

 **Mounika** 14:10  
How do you know when to use ohh just a second?  
Yeah.  
When do you use?  
When to choose Tan, H, Relu or sigmoid activation functions?  
So, Vijay, why we we will choose site like we have different optimization algorithms.  
So why we are selecting a particular one is based on our use case.  
For example, in the last layer, if it is a binary classification, we will use sigmoid.  
If it is a multiclass, we will use softmax and in middle layers maximum we can use tan H or Relu or leaky Relu.

 **JESINTA ROZARIO** joined the meeting

 **Mounika** 14:43  
These are all the activation functions which we need to use, so there is no best activation function to use.  
It depends on your data set and problem statement.  
So you need to experiment with multiple activation functions, whichever is best.

 **RITHIKHA KALIDOS** left the meeting

 **PRASHANT SRIVASTAVA** left the meeting

 **Mounika** 14:56  
So you need to use that one as your final optimization functions.  
So in your next assignments, you'll also get questions like use, redo and show the output.  
Use TANISHA.  
Show the output so at that time you'll understand which one to use.  
So some people are talking about offline exams.  
It's not the platform to discuss, so please listen this to to webinar.  
Then you can ask your respected faculty members.  
So then we are training the model.  
So first we need to set our optimizer as well as laws as well as the metrics.  
Then we need to train our model.  
So for training which parameters we will pass, we will pass extreme as well as bitrate.  
And here I am giving epochs AS25.  
You can give a number of epochs as 510 or whichever you feel and the validation split.  
A 0.1 means one percent, 10% out of 100% will go for validation and remaining all will go for training and testing.  
So bad, say 64, means 64 samples will be considered in each batch.  
It takes some time to run, and if you're seeing the printing every epoch, it's printing the loss accuracy.  
Yeah.  
So that's how it's been.  
Uh, and this is the validation loss and validation accuracy because 10% data we are keeping it to hold to train on the validation set, right?

 **PRASHANT SRIVASTAVA** joined the meeting

 **SHIVA SETH** joined the meeting

 **Mounika** 16:25  
So this is how the validation accuracy and this is how the normal train accuracy.  
Yes, 1:00 o'clock is nothing but one iteration.  
So which file you are not able to access?

 **PRITAM MONDAL** joined the meeting

 **Mounika** 17:11  
Yeah, we have not shared anything.  
Uh, so first listen it.  
Then we will share.

 **VENKATA RAJU KATTAMURI** left the meeting

 **Mounika** 17:17  
Anyway, we will definitely share, so don't worry about that.  
So the training is done now, we will print the accuracy.  
So what is the final training accuracy and final validation accuracy if you observe here we got 97% training accuracy and 96% validation accuracy.  
But in real world, problems don't expect that you'll get accuracy above 90%.  
It takes a lot of time and effort to get.  
Love big accuracy generally in this case why we are getting the good accuracy?  
Is the data set is like very balanced and this is used for the experimentation purposes.  
So the data annotation, everything is done very nicely so that we are getting good accuracy and the model is also able to understand the data set very clearly.

 **S KEERTHANA** joined the meeting

 **Mounika** 18:02  
Now we need to test the model we already have written training and testing set separately.  
Right now we will use this testing to as the model.  
And this is how it's it's coming.  
So the accuracy for testing is also 96%.  
Now we will see the laws and testing accuracy.

 **SHIVA SETH** left the meeting

 **Mounika** 18:23  
The loss is .12 and the accuracy is 96%.  
As the number of classes is 9.  
So this is the difference between actual and the predicted labels.  
Now we will plot the curves using the Matplotlib Library, so this is how the training and validation accuracy.  
So let's say in your assignment.  
Also, if someone is asking you to plot the curves of training and validation accuracy, this is how you need to plot.  
You can take this sample code and you can modify according to the assignment requirements and you can show the cups.  
Now we will print the confusion matrix.  
I hope everyone knows what is meant by confusion matrix, right?  
So here we are initializing.  
Uh.  
It's like we can do random initialization also.

 **VYAS HONEY KAMAL VYAS** left the meeting

 **Mounika** 19:27  
So Rakesh, I can understand your situation, but this is not the place to discuss because this is webinar right?  
And because of your messages, other people will also get disturbed.

 **VIJITH V DANIEL** joined the meeting

 **Mounika** 19:38  
Sita Mam will join.  
You can ask her at 8:30.  
So yeah, a few people know what is meant by confusion matrix.  
So so this is how the confusion matrix looks like, and I'm also plotting the heat map.  
Heat map is also a way to display the confusion matrix.  
Now classification report, so classification report as.  
As I said, we have 10 classes, right?  
Zero to 9 digits.  
So for each class this is the model 89% of the times.  
It's like it's like giving correct answers, so this is how the precision, recall, F1 score and support is calculated.  
So if you look at this below things.  
So these are the final macro and weighted average out of all this precision recall and reference code.  
So now the exercise is you need to modify the code to get a better testing accuracy.  
Change the number of hidden units.  
Increase the number of hidden layers.  
Use a different optimizer, so here I'm using SGD as an optimizer. Right?  
You can try with using tan hedge as an optimizer, Relu as an optimizer.  
You just need to change the HDD to Relu or SGD to tan H so this is the exercise you need to do so.

 **HARSH NARAYAN CHAURASIA** left the meeting

 **Mounika** 21:03  
Once this webinar is done, this notebooks will be uploaded and then you can work on the exercise.  
Now let's go back to the.

 **HARSH NARAYAN CHAURASIA** joined the meeting

 **Mounika** 21:13  
So does anyone?  
I means everyone is clear with 2A.  
If you have any doubts you can ask me, I'll give like one minute type, otherwise I'll continue with the second notebook.

 **JESINTA ROZARIO** left the meeting

 **BALAJI T** joined the meeting

 **Mounika** 22:16  
So that Luis is an activation function.

 **VIJITH V DANIEL** joined the meeting

 **Mounika** 22:30  
So now let's go back to this uh discussion.

 **KOYEL GHATAK** joined the meeting

 **Mounika** 22:37  
Off dropout.  
So before going to this, uh, does anyone know what is meant by dropout?  
And why we require dropout in the deep neural networks or any of the machine learning algorithms?  
So yeah, someone is saying drop out is to reduce overfitting.  
Oh yeah, that's actually, you know, so I'll explain you for two minutes and then we'll go to the court.  
So dropout is a regularization technique commonly used in deep neural networks to improve their generalization performance and to prevent overfitting.  
So what is overfitting?  
Overfitting means it occurs when a neural networks learns the training data too well.  
Means for example you all will write exams right now.

 **KOYEL GHATAK** left the meeting

 **Mounika** 23:25  
Let's say exams is the hard discussion.  
So now I'll explain you about exams.  
So you are listening the classes very well and you are able to answer the straight questions very is it very good accuracy like everyone are getting 100 out of 100 let's say I'll put some lab exam where you need to apply the concepts from your class.  
So there you are getting only 10 marks, 20 marks like that.  
So that means you are overfitting, so you are learning the theory very well in your answering and you're getting 100 out of 100 and you are unable to get unable to apply the techniques used in the class and you are unable to score good marks in your practical exam.  
So that is called overfitting means you are think something very good and you're unable to apply it to the practical exams in the same way, neural network will also overfit.  
For example, in training, let's say it got like 90% accuracy, 100% accuracy in sometimes 98% accuracy.  
But if you see the test accuracy where it needs to generalize and give good predictions, the model is failing.  
The model is giving like very less predictions like 10% twenty percent 30% accuracy you are getting it's unable to predict the new classes or existing classes correctly.  
So that's the nomina that phenomena is called overfitting.  
So it occurs when a neural networks learns the training data too well, including its noise and specific details.  
To the extent that it performs poorly on new unseen data, so drop out is a technique or approach which is used to resolve this problem to some extent.  
So how dropout works and why it is used?  
So we will have some dropout operations during training at each update of the model parameters, dropout randomly sets a fraction of units in the network to zero.

 **S KEERTHANA** left the meeting

 **Mounika** 25:18  
That means, let's say we have 10 hidden neurons and we will set up some, let's say, two or three neurons to zero.  
That means we those neurons won't learn anything.  
This means that these units do not contribute to the forward pass and backward pass to that particular training iteration and in the next iteration we will make some other neurons to 0.

 **BALAJI T** left the meeting

 **Mounika** 25:39  
So every time some neurons we are making it zero and others are learning.  
So in this way, each other neuron will have the information and it will generalize as well.  
So this is an assumption that yeah, if we use dropout, it may perform well.  
We can see it and not in all cases, but in few cases you will see improved performance and in some cases you won't see the improved performance.  
Then you'll use some other techniques.  
So for this webinar, let's discuss about dropout.  
Says the concept clear.  
Yeah.  
So now so this if you see the code, this is the same code as it is described in 2A.  
So the first we are importing some statements, then setting the random seed and then loading the ministry data set and then normalizing the inputs.  
Then we are loading the DNN model and adding the layers.  
So here one layer is nothing but one input layer, so we are specifying the size of each input layer.  
So if you see here we are using railway as an activation function and we are using 15 neurons and 16 neurons and then we are using dropout as 0.5.

 **PRITAM MONDAL** left the meeting

 **Mounika** 26:56  
So this is how we will incorporate the dropout, add dropout of 50% to layer 2 means in each iteration 50% of neurons will be 0.  
So no, no learning will happens there.

 **SINCHANA C S** joined the meeting

 **Mounika** 27:10  
And if you see in the last layer, every time it is the same, we are putting 10 neurons as it is 10 class classification and the activation function is the softmax.  
So this is how we created and this is the summary.  
So now we will see the regularization and optimization of DNS.  
So here also I'm using the Adam Optimizer and loss as categorical cross entropy and metric as accuracy and we will train the model.  
Now will I learn this and see what is the difference between the previous and this?

 **SINCHANA C S** left the meeting

 **Mounika** 29:19  
The let's wait it's running.

 **PARAS KOHLI** joined the meeting

 **Mounika** 30:29  
So 25 parts are done.  
So yeah, use the different keyword.  
Anyway, I'll set it up now.  
It's taking more time, so in a similar way I'm printing the accuracy training as well as testing accuracy plot.  
Then we are also printing the loss and we are testing the model so here if you see the loss is accuracy is 96 and we'll see what it happened in the previous and the previous is also like 96.  
It's OK.  
Yeah, but this data set as this is very balanced.  
You won't observe the difference between drop out, but if you're working in real world, you know the if you use drawboard it will like activates and it will give like better accuracy and here so you need to modify the code to get a better accuracy and you need to change the number of hidden units, increase the number of hidden units and use a different optimizer.

 **CHAITANYA CH** joined the meeting

 **Seetha Parameswaran .** joined the meeting

 **Mounika** 31:42  
And here also you need to do the same thing.  
So here as the accuracy is more, no need to think that you should get 100% accuracy.  
These are all the tweaks you need to learn, so that's why we are giving it as an exercise.  
So where it will be applicable in future new datasets?  
Now we will see, at least of me.  
So does anyone know what is meant by at least stopping and why are they stopping?

 **RINU MICHAEL** left the meeting

 **Mounika** 32:10  
Is used in deep neural networks.  
So it's also a regularization technique which is used in DNS to prevent overfitting.  
Yeah.  
So to someone is answering correctly, like yes to avoid overfitting and to improve the generalization performance during training.

 **ARPITHA D** left the meeting

 **Mounika** 32:36  
So the idea here is, uh, the at least hopping mechanism monitors the performance of it deep learning network or any model on a validation data set during the training and stop the training process once the performance stops improving our starts degrading.

 **GOURAV KALRA** joined the meeting

 **ARPITHA D** joined the meeting

 **Mounika** 32:53  
For example, if I'm running the model for 25 epochs, let's say my model is performed very well at the 20th epoch and after that it's it's unable to see a good improvement in the accuracy.  
So at least stopping means the model itself will stop at the stage of 20th epoch.

 **KOYEL GHATAK** joined the meeting

 **Mounika** 33:10  
It won't run up to 25 because it's it's waste of resources to run more right when you're model is getting good accuracy at 20th iteration.  
So that's how this works.  
So this is done to avoid training the model for too many epochs, which could leads to overfitting to the training data.  
So why overfitting happens even in real world?  
For example, for an exam, if you buy hard more for example, you want to learn about deep neural network.  
If you buy hard it more, you know each and every aspect.  
You know what is meant by hidden layer.  
You know what is meant when Adam Optimizer, you know everything.  
If some theory questions comes, you can answer it very nicely.  
But if you problem comes you cannot answer so that is called by Harting or training very good or overfitting with the training data.

 **GOURAV KALRA** left the meeting

 **Mounika** 33:57  
But The thing is you should apply it and you should get even good results when you are applying it.  
So that's why we need to be we need to learn a concept also in a generalized perspective, where we need to apply it as well as we need to know the uh concepts of it.  
So then we can write either theory question or either we can write this application oriented question.

 **KOYEL GHATAK** left the meeting

 **Mounika** 34:20  
So even our model also should be very generalized, so that it should perform well in training as well as in testing.  
And we will have some stopping criteria.  
Like uh, it involves a criteria definition based on the validation performance, such as monitoring the validation loss or accuracy.  
The training process isn't altered if the performance on the validation set does not improve or wants for a specific number of consecutive epochs.  
So this is how it it happens and it like we we can avoid unnecessary training and all.  
So you can directly use early stopping function which is available in Keras and if you see also it's like the same code we are using the random seed and we are loading the data we are normalizing it and we are creating the deep neural network architecture.  
So this is how you print the summary.  
Then we are using the same compiler where the optimizer is Adam and the loss is categorical cross entropy and the metrics are accuracy.  
So this is how you define the early stopping and training.  
So you use a function called early stopping which you will import from the Keras Tensorflow callbacks import early stopping, so you need to import that.  
If you go back and see the import statement also.  
Yeah, this is what they imported it from Tensorflow dot Carlos Dot callback import and list of it.  
OK, so after importing you need to use this function and you need to monitor the validation loss that this whatever you want to monitor you need to add.  
Generally we will monitor only validation loss because our model should perform very well on the unseen data.  
So validation data it's we will consider it as unseen data.  
So that's why we will monitor the validation loss.  
Then we will again fit our model and we will evaluate the model.  
So if you see in this epoch, early stopping happened.  
So in the epoch file and this stopping happened means this data is very good right?  
Even if the 5th APOC it got like good accuracy and the model stopped in other data set, you can see in which a pocket is stopping and all.

 **PATIL SHRIKANT TUKARAM** left the meeting

 **Mounika** 36:36  
And then you'll plot the early plotting early stopping results, like how the train and validation loss is happening and in which a pocket is happening.  
So if you see at the 4th epoch, it's happening and it's dropping at the 5th epoch and again you'll print the training as well as the testing accuracy.  
And here also the exercise is you need to modify the code to get better testing accuracy.  
We need to change the number of hidden units, increase the hidden layers and use a different optimizer.  
So train for more epochs or for better graphs to get the better graph representation.  
So this is the exact.  
So if you have any doubts ask me.  
Otherwise I'll explain L1 and L2 regularization.

 **Seetha Parameswaran .** 37:29  
Uh, mounika.

 **Mounika** 37:30  
Uh, ma'am?

 **PATIL SHRIKANT TUKARAM** joined the meeting

 **Seetha Parameswaran .** 37:33  
In between before you start L1L 2UH, can I jump into the topics that I want to?

 **Mounika** 37:40  
Sure, sure, ma'am.  
Sure.

 **Seetha Parameswaran .** 37:41  
Talk about for this first and then you can continue again, OK, hello.

 **Mounika** 37:43  
Yeah, sure, ma'am.  
Down.  
Yes, ma'am.

 **Seetha Parameswaran .** 37:50  
Umm.  
About the assignment one.  
Ohh whatever queries that you have regarding assignment one you can ask now and I'll address all those queries regarding estate meant what?  
Uh, OK.  
Ohh.  
God, in your menu go to people.  
Uh, that is a a.

 **ASHA ALEX** joined the meeting

 **Seetha Parameswaran .** 38:24  
The top three buttons? No unmute.  
Tall, but they should.  
That was her.  
The right hand side top corner, there are the dots.

 **AZARUDEEN A** joined the meeting

 **Seetha Parameswaran .** 38:38  
A new dog participants.

 **Mounika** 38:42  
Actually, everyone is unmuted, ma'am.

 **Seetha Parameswaran .** 38:46  
No, no, no.  
And like I didn't to unmute themselves then.

 **Mounika** 38:53  
I don't know, but everyone see if we see the list.  
Everyone is in Unmuted only, unmuted except you and me.

 **Selva Kumar** 38:58  
OK, I'm enabling it. Month.  
Yes, yes I'm enabling.

 **Seetha Parameswaran .** 39:02  
Huh.  
Yeah, please enable.

 **Selva Kumar** 39:14  
Yeah, I hope no everyone can access the mic.

 **SATYA PRAKASH PANDIT** 39:20  
Yes, it's enabled.

 **ADAPA HEMACHAND** 39:21  
Yes.

 **SUNANDA SHARMA** 39:22  
Yeah, we can access now.

 **Seetha Parameswaran .** 39:22  
Yeah.  
Lower this this.  
OK.  
Any questions regarding assignment one?  
Did you go through assignment one?

 **DEEPAK RAM** 39:37  
Yes, ma'am.  
We have gone through, ma'am.

 **Meet Shah** 39:37  
He.

 **AMODWALA HIMANSHU SATISH** 39:38  
Yep, yeah.

 **DEEPAK RAM** 39:39  
One of the question was my general understanding is that we have to pick one domain, let's say speech recognition and we have to find 3 papers which use.

 **Seetha Parameswaran .** 39:47  
No, no, Deepak, what is your domain?  
What is your domain?

 **DEEPAK RAM** 39:51  
I am not yet picked Madam.  
I have not yet picked up, just gone through the assignment.  
So far I have not yet picked the domain, but we have to pick one domain, right?

 **JESINTA ROZARIO** joined the meeting

 **Seetha Parameswaran .** 39:58  
OK.

 **DEEPAK RAM** 39:58  
And then we have to find 3 papers which which solve something in that domain using three different technologies like RNCNN et cetera.

 **PRITAM MONDAL** joined the meeting

 **Seetha Parameswaran .** 40:07  
It can be three, I said.  
Any one of the three?

 **DEEPAK RAM** 40:12  
Well, so for so I have to pay probably find 3 papers with all of them doing CNN for example.

 **Seetha Parameswaran .** 40:13  
See if I'm working with.  
He.

 **KUEEN PEGU** joined the meeting

 **Seetha Parameswaran .** 40:18  
No, no, no, no.  
OK, now hold on.  
Hold on with me if you're saying speech recognition, maybe I'll get only ARN papers.  
Or maybe only Transformers?

 **SACHIN SHANKAR HEBBAR** joined the meeting

 **Seetha Parameswaran .** 40:32  
Or I may get the combination of R and then and transformer OK.  
It depends on what application I'm choosing.  
Again, in speech recognition, what are we trying to do?  
Speech recognition is different from transcription wait.  
So when I say 3 the speech recognition, what kind of activity are you doing in speech recognition that is also important.  
So you need to ensure that your application is same for all the three journals, right?  
And the same activity like say if I do.  
In uh, say in image classification, I'm doing image single label classification or multi level classification.

 **KRISHNA KUMAR, M** joined the meeting

 **Seetha Parameswaran .** 41:13  
It is a difference.  
There is a slight difference, so if I'm doing multilabel classification that is in the same image, that'll be two or three classes coming in or four or five classes coming in.

 **KRISHNA KUMAR, M** left the meeting

 **Seetha Parameswaran .** 41:25  
If that is the case, I'm saying it is multi label classification and there maybe three I have to choose three journals of this same stop it.  
My I do you live the classification hoping to have that activity has to remain safe for all the three journals, OK.  
And now the journal can speak anything like for speech recognition.  
We can apply 1D1D CNN or an RNN, RNNS, CNN or a transformer.  
I can do any of this?  
UH-4.  
So it's your choice whether you want to stick to, say, only Transformers and find out how the Transformers are performing, because in Transformers itself you have multiple Transformers.  
You may all have that maybe.  
And from belongs to.  
So what?

 **Meet Shah** 42:22  
Ma'am, your voice is breaking actually.

 **Seetha Parameswaran .** 42:23  
And then try to understand because.  
I mean article.

 **Meet Shah** 42:29  
And it's breaking in between.

 **Seetha Parameswaran .** 42:31  
Some uh, yeah, I because I'm getting calls in between and that's why.

 **PARAS KOHLI** 42:32  
Predicting.

 **Seetha Parameswaran .** 42:39  
So you understood what I'm saying.  
I need to compare.  
It's not a comparison of a.

 **ESAKKIAPPAN E** 42:44  
Hazard grade lookups like that's not coming from a.  
It's not coming from the ad tool, it's face.

 **Seetha Parameswaran .** 42:52  
But it leaves mute yourself.  
It's not like 2 to tote.

 **DEEPAK RAM** 42:55  
Yes, please go ahead.

 **Seetha Parameswaran .** 42:58  
Yeah, two to two comparison.  
I just want you to compare what kind of techniques are being used.  
OK, because it that was basically required for understanding what deep learning is.

 **KRISHNA KUMAR, M** joined the meeting

 **Seetha Parameswaran .** 43:11  
Whatever we learn in the sessions are the bare essentials.  
It is like your alphabets.  
But how you come up with words with these alphabets?  
Uh, you can.  
You can take up a dictionary and bring out all the words, but hey, and it is very difficult to teach all the the 10 million words that you see in the dictionary.  
But this is one way of figuring out what is there in the field of deep learning that if you say chat, Gupta what is being used in chat repainting.  
Right. Like that.

 **MANDAR VILASRAO GITE** 43:48  
Transformers.

 **Seetha Parameswaran .** 43:50  
Understood.  
Yeah, Transformers.  
Again, what transformer?  
It is not a small language, but it's it's not Transformers.  
It is language model and that will large language model.

 **K NAVIN KUMAR** joined the meeting

 **Seetha Parameswaran .** 44:00  
So if I say large language model, somebody will ask me a question.  
What about small language model?  
Do we have something like that?  
So how do I figure all these things out?  
By reading so this is one way of.  
The answering you how to read and how to go through journals and the importance of understanding those journals.

 **RAVI RANJAN** joined the meeting

 **SAKTHI R** joined the meeting

 **Seetha Parameswaran .** 44:25  
Any other question?

 **MANDAR VILASRAO GITE** 44:25  
Yep.  
So, ma'am, just to summarize so that my I understand it, I understood it correctly.

 **DEEPAK RAM** 44:27  
Thank you, man.

 **MANDAR VILASRAO GITE** 44:31  
So let's say I have chosen a prediction of ohh COVID based on city scan.  
Can I pick up three papers which are written about using CNN and compare them and implement one of them?  
Is this correct understanding map?  
Hello.

 **Seetha Parameswaran .** 44:55  
England, my love is that the question.

 **MANDAR VILASRAO GITE** 44:59  
Yeah, ma'am. I couldn't.

 **Seetha Parameswaran .** 45:00  
I'm audible.

 **MANDAR VILASRAO GITE** 45:02  
Yeah, ma'am.  
But your voice is breaking, so some yes.

 **Seetha Parameswaran .** 45:04  
And the audible.  
Yeah, yeah. OK.  
No.  
Well, I guess to this boy.

 **MANDAR VILASRAO GITE** 45:13  
So, sorry, ma'am, we are losing you again, ma'am.  
I'm I'm not able to hear you.

 **Seetha Parameswaran .** 45:19  
Is it better now?

 **MANDAR VILASRAO GITE** 45:19  
If it does that.  
Sound is breaking, ma'am.  
If others are hearing, then I will hear from them, ma'am.  
But I'm not able to hear.

 **SUNANDA SHARMA** 45:29  
Yeah, I'm able to hear actually perfectly.

 **NAVEEN G** 45:29  
No, not.

 **JAGADISH NAYAK** left the meeting

 **PARAS KOHLI** 45:31  
It's breaking actually for us as well.

 **Seetha Parameswaran .** 45:31  
And I I didn't know.

 **SUNANDA SHARMA** 45:35  
Yeah, you are audible.

 **K NAVIN KUMAR** 45:35  
Yeah.

 **Seetha Parameswaran .** 45:36  
OK, I'm audible.  
So if I, if I understand the question right, predicting COVID from CT scan, right?  
So it should be predicting COVID from CT scan all throughout.

 **MANDAR VILASRAO GITE** 45:45  
Yes, ma'am.

 **Seetha Parameswaran .** 45:49  
Now somebody had asked the question what if I have different data sets?  
That is fine, yeah.

 **MANDAR VILASRAO GITE** 45:55  
Yeah.

 **Seetha Parameswaran .** 45:59  
But again.  
Yeah.  
Yeah, right.

 **Meet Shah** 46:05  
Ma'am, it again breaking up.

 **Seetha Parameswaran .** 46:06  
Yes.

 **NAVEEN G** 46:06  
No, I'm not able.

 **Meet Shah** 46:08  
It's breaking your voices.

 **NAVEEN G** 46:08  
Not able to hear you.

 **Seetha Parameswaran .** 46:08  
You're talking. You OK?

 **PATHAN IRFAN JAHANGEER** 46:11  
I'm not able to hear.

 **Seetha Parameswaran .** 46:11  
You think about that? Ohh.

 **ADAPA HEMACHAND** 46:12  
Not hear you.

 **Seetha Parameswaran .** 46:16  
No, no, no.

 **Meet Shah** 46:18  
It's uh, breaking constantly in between.

 **MANDAR VILASRAO GITE** 46:22  
So it's not coherent bottom we we can't make out what you were saying.

 **SAKTHI R** left the meeting

 **Seetha Parameswaran .** 46:26  
OK, hold on.  
Hold on, I yeah.

 **JAGADISH NAYAK** joined the meeting

 **Seetha Parameswaran .** 46:43  
OK, what about now?

 **PRITAM MONDAL** 46:49  
Yeah, it's a lot better now, yeah.

 **Seetha Parameswaran .** 46:49  
Is it better now?  
OK, so I should remain at one for position and I should not move.  
That is what it says.  
OK.  
No, I was walking up and down now I should.  
Yeah.  
So what I was saying was that for predicting a code.  
Yeah.  
Umm, the uh good example one is that it should all be CT scan images.  
It you should not go for COVID from X ray.  
OK, R from MRI scans.  
It should be city only.  
OK, first thing that it can be different.  
You can have data sets of US.  
You can have datasets of UK.  
You can have data sets of Indian patients. Doesn't matter.  
Data sets can be any.  
Now the technique, the deep learning technique and that that I.  
We did some journal would have used pre trained models fine that is paper one, another model and another Johnny would have used.

 **AZARUDEEN A** left the meeting

 **Seetha Parameswaran .** 47:57  
Another three train model that is fine.  
They are two different and bus, but I didn't told Journal made.  
Used CNN so that is also fine.  
Right.  
So it depends on what I mean.  
All the three are five.  
All the three?  
He OK and we.  
Some OK.

 **ANANDPREMKUMAR P** 48:24  
Still still breaking.

 **SASIKUMAR S** 48:26  
Ma'am, your voice is breaking.

 **ADAPA HEMACHAND** 48:28  
Yeah.

 **PATHAN IRFAN JAHANGEER** 48:28  
Yeah, we did not understand.

 **SASIKUMAR S** 48:28  
Thirdly, we couldn't able to understand what you're telling particular social network.

 **Seetha Parameswaran .** 48:35  
Right.  
So you didn't hear anything at all?

 **NISHAN KUNDU** joined the meeting

 **SUNANDA SHARMA** 48:42  
Uh, we here like you, we can take our data set for UK, US and doesn't matter.

 **SASIKUMAR S** 48:42  
In between this breaking Madam.

 **Seetha Parameswaran .** 48:42  
But when you got uh.

 **PATHAN IRFAN JAHANGEER** 48:42  
They didn't breaking in between.

 **SUNANDA SHARMA** 48:47  
Fill that job after it.  
Slowly it started overlapping.

 **Seetha Parameswaran .** 48:50  
In that, OK, now you are.  
Guess you are able to hear clearly.  
I log out and log in again.

 **SUNANDA SHARMA** 48:59  
Yes.

 **Seetha Parameswaran .** 49:01  
It yes, or ask them to wait.  
I log out and log in.

 **Mounika** 49:05  
Ma'am, now it's clear.

 **Seetha Parameswaran .** left the meeting

 **JAGADISH NAYAK** left the meeting

 **Seetha Parameswaran .** joined the meeting

 **Seetha Parameswaran .** 49:44  
Hello everyone, am I audible?

 **VISHAL SOPANRAO NANDA MANE** left the meeting

 **Mounika** 49:47  
It's ma'am.

 **Meet Shah** 49:47  
Yes, ma'am.

 **PRITAM MONDAL** 49:48  
Yes, ma'am.

 **Seetha Parameswaran .** 49:49  
Yeah, fine.  
OK, So what I was saying was say Journal 1 uses one pre train model for Git for predicting forbid from CT scan images.  
Yeah, 32 may use a different pre trained model for the same activity and journal three may be using a custom design CNN.  
You can compare all these three the looking at the assignment question you have transfer learning and you have your CNN both only these two because it is images and we may not use RNN or because it is nonsequential data we may not use RNN so that is fine.  
Uh, that application restricts the usage of all the three.  
If you ask me which is the application which uses all the three, there are very very few.  
Hey so you need not.

 **SACHIN SHANKAR HEBBAR** left the meeting

 **DEEPAK RAM** 50:55  
Lost you again, ma'am.

 **Seetha Parameswaran .** 50:56  
For that.

 **PATHAN IRFAN JAHANGEER** 50:57  
Yeah, they will.  
Do here.

 **Seetha Parameswaran .** left the meeting

 **Seetha Parameswaran .** joined the meeting

 **Seetha Parameswaran .** 51:34  
Oh, did you hear me?  
Is this clear?  
I was on mute.

 **Meet Shah** 51:43  
No, no.  
I think we missed you, yeah.  
We could Jaya the last one or two men one minute something.

 **Seetha Parameswaran .** 51:48  
What did you miss?  
What did?

 **AALEKH SHRIVASTAVA** left the meeting

 **AMODWALA HIMANSHU SATISH** 51:53  
Yeah, basically you are mentioning that there are very few applications where all the three papers can be a CNN, RNN and Transformers can be implemented.

 **Seetha Parameswaran .** 51:53  
Because this. Ohh.  
But.  
Yes, correct.  
Thank you.  
That's all that I said last after that.  
I didn't say anything.

 **AMODWALA HIMANSHU SATISH** 52:10  
A quick question mark, can we just use Pytorch as a language?  
It's more of a personal preference rather than tensor flow and Keras to implement the other paper.

 **Seetha Parameswaran .** 52:24  
I've restricted it right together.  
Send uh tensor flow framework.

 **AMODWALA HIMANSHU SATISH** 52:31  
Yeah.

 **Seetha Parameswaran .** 52:40  
OK, do one thing.  
You email me a AMODWALA, right?  
You email me.  
Uh, let me take a A.

 **AMODWALA HIMANSHU SATISH** 52:47  
Mm-hmm.

 **Seetha Parameswaran .** 52:49  
Like, let me discuss this with other professors and the panel and then I'll get back to you.

 **AMODWALA HIMANSHU SATISH** 52:54  
Sure, we'll do that.

 **Seetha Parameswaran .** 52:57  
Yeah.

 **Meet Shah** 52:59  
And month for papers.  
We cannot use papers with code website, but at least we can use the data set from that website.

 **Seetha Parameswaran .** 53:05  
No, no.  
Yeah, data that is fine.

 **Meet Shah** 53:11  
OK.

 **PRITAM MONDAL** 53:14  
Ma'am, the.

 **Seetha Parameswaran .** 53:14  
If you use data, the code is already provided there, right?  
That is, when I see the purpose is that you learn.

 **PRITAM MONDAL** 53:19  
Yeah.

 **Seetha Parameswaran .** 53:21  
The purpose is not for copying.

 **PRITAM MONDAL** 53:24  
Very.

 **Seetha Parameswaran .** 53:24  
If you can replicate on to some other data set, if he again.

 **AMODWALA HIMANSHU SATISH** left the meeting

 **Seetha Parameswaran .** 53:33  
Don't wait for hello and this coding the master accordingly.

 **KAMAL SINGH** joined the meeting

 **Seetha Parameswaran .** 53:40  
If you go by the template, you will not be able to copy paste as it is.

 **PRITAM MONDAL** 53:46  
Ma'am, the there is a query actually so like can you like it say something about the new example Lucy like for remote students it's becoming a problem.

 **Meet Shah** 53:46  
Yeah.  
Yeah, got it. Thank.

 **ANWARUDDIN BISWAS** joined the meeting

 **Seetha Parameswaran .** 53:55  
Uh.  
Umm, tomorrow in the discussion for I guess you would have already received an email which you can ask raise all these queries.  
Can you please write to that?  
I'm not in or we are not in any position to comment on any of these things.

 **PRITAM MONDAL** 54:16  
Yeah, we, we wrote, ma'am.

 **Seetha Parameswaran .** 54:17  
It is.  
We are also not.

 **PRITAM MONDAL** 54:18  
But like, we're not like getting any reply from them.  
And it's like the end date is near like to download handouts and all.  
So that's why, like if anything could be done for remote students.

 **Seetha Parameswaran .** 54:31  
Download the whole tickets you need.

 **PRITAM MONDAL** 54:32  
Yeah.  
Yeah, like it's like.

 **Seetha Parameswaran .** 54:35  
Download the whole thing.

 **PRITAM MONDAL** 54:37  
Yeah.  
So it's the horror ticket download.

 **Seetha Parameswaran .** 54:38  
Please raise the query.

 **PRITAM MONDAL** 54:40  
Umm, OK.

 **Seetha Parameswaran .** 54:41  
Yeah.  
You please raise the query and at least go through the form.  
What does being given?

 **PRITAM MONDAL** 54:47  
OK.

 **Seetha Parameswaran .** 54:50  
The.

 **SUNANDA SHARMA** 54:51  
Yeah, because ma'am, everyone is on remote location and we signed up this course by knowing that online exam will be there.

 **Seetha Parameswaran .** 54:52  
Hey.

 **SUNANDA SHARMA** 54:58  
And now suddenly after getting all these things.

 **Seetha Parameswaran .** 55:01  
To that email that is being given.

 **SUNANDA SHARMA** 55:01  
Ohh is offline?  
Yeah.  
Which is a shocked.  
And now we are not prepared for that also.

 **JESINTA ROZARIO** 55:15  
Mom, is this compulsion going to stay?

 **ANWARUDDIN BISWAS** 55:15  
We're doing, Madam.

 **Seetha Parameswaran .** 55:17  
And it's something that.

 **ANWARUDDIN BISWAS** 55:20  
A good deal with them, actually.

 **Seetha Parameswaran .** 55:23  
I have.

 **ANWARUDDIN BISWAS** 55:23  
My love, I'm playing at 11:00 o'clock and somewhere Rd communication is not available.  
Italy actually uh as per the schedule I have to take many leaves and other informing there uh I cannot go because of it.

 **DEEPAK RAM** left the meeting

 **ANWARUDDIN BISWAS** 55:41  
There's some family problems and with as per the job location, it is moving from here.

 **MANDAR VILASRAO GITE** 55:47  
This.

 **ANWARUDDIN BISWAS** 55:47  
It is very difficult, are almost this possible that I am unable to attend the exam in the designated center Madam?

 **HARSHAV KUMAR** joined the meeting

 **ANWARUDDIN BISWAS** 56:00  
I'll actually I'm from uh, so I'll look at the love that it will take.  
At least two days to go.  
Is the main concern and other thing also uh.  
Some official ohh there's also.  
Only.  
Uh, that move from here.  
It is very difficult, likely impossible.  
There's a problem with them.

 **Seetha Parameswaran .** 56:31  
I I understand all I can do right now is here.  
Your constraint concerns and give you the email onto which you can raise your queries.  
Hey.

 **RAKESH BAROLIYA** 56:44  
Ma'am, can you provide some contact number because we have sent multiple mails, you know with four teams operations exams, admissions with some particular persons as well.

 **KUEEN PEGU** 56:44  
Ma'am.

 **ANWARUDDIN BISWAS** 56:45  
Look at it.

 **Seetha Parameswaran .** 56:51  
OK, let me tell you, you know like like it's like with you tell you this.

 **RAKESH BAROLIYA** 57:00  
Yes, ma'am.

 **PRITAM MONDAL** 57:06  
Now you're breaking off again, ma'am.

 **AZARUDEEN A** joined the meeting

 **RAKESH BAROLIYA** 57:18  
Maybe you always is not audible.

 **MANDAR VILASRAO GITE** left the meeting

 **Seetha Parameswaran .** 57:33  
They.  
Love you.  
Bye decision but again.

 **RAKESH BAROLIYA** 57:49  
Remember, your voice is not audible.

 **AZARUDEEN A** 57:49  
And we are not even feeling.

 **Seetha Parameswaran .** 58:03  
Can you hear me?

 **PRITAM MONDAL** 58:07  
Uh, yes, ma'am.

 **Seetha Parameswaran .** 58:10  
Yeah. So.  
See if it is something that I can decide and do.  
I can do that, but it most of the things are discussed in a panel.  
Discuss M some professors and the higher authorities and it will take time.  
So you have to wait.  
It is not like any corporate place where you tell now and the decision is taken the next second.  
This requires time.  
This requires a lot of discussions, so you have to wait till.  
Yeah, you you have to take the decision and get back to you.

 **RAKESH BAROLIYA** 58:44  
We just want to assurance that we are actually considering the request officially final.

 **Seetha Parameswaran .** 58:45  
Let's just.

 **RAKESH BAROLIYA** 58:49  
This will take time, but at least they are considered their accordingly.

 **PRITAM MONDAL** 58:53  
Yeah, like at least acknowledge that they are thinking, yeah.

 **RAKESH BAROLIYA** 58:53  
That's thing we wanted.  
Yeah, even not a congregate.  
They're just ignoring, ma'am.

 **Seetha Parameswaran .** 58:58  
I can pass on this information that you don't know whether they are ignoring or whether they have seen your emails come from the from today's conversation.

 **PRITAM MONDAL** 59:00  
You know.

 **RAKESH BAROLIYA** 59:05  
Ma'am, at least.

 **ARUN KUMAR MOHANDAS** 59:06  
Yeah, but at least there should be some acknowledgement right here.

 **VIJITH V DANIEL** 59:11  
Yeah, ma'am.  
Please convey our concerns to that the the concern that the yeah please do because like we are under so much pressure, ma'am, like as humans like like travel plan like that's nearly near to impossible.

 **RAKESH BAROLIYA** 59:12  
And sometimes.

 **Seetha Parameswaran .** 59:15  
That's all I can do.  
Yeah, I'll do that. Yes.

 **VIJITH V DANIEL** 59:27  
Like I'm based from Dharamsala and like it's with young family, it's very difficult.  
So please pass it and you know that will be really great help for us.  
Yeah.  
Thank you.

 **RAKESH BAROLIYA** 59:38  
Yes, ma'am.  
Please pass our message to her management.

 **Seetha Parameswaran .** 59:44  
You have to understand remember the first session that I took.  
Umm, in that first session under course logistics, there was some rules and regulations that I want on.  
I wanted you to follow that is post everything in the discussion forums but emailing which you directly and wait hey Now I know I'm taking more than 24 hours to reply today.  
I I know that I have kept an email on hold because it was asking hello.  
Alright.  
Questions all of them are challenges.  
Some of the questions I may have addressed today in this discussion, but some of them I will have to read back and then understand.  
And then so when we have queries when we have questions, if everybody is asking the same good question, we will have to wait, right?  
Because I see for example last time where there was a query regarding Chris, I received almost 100 emails regarding the same topic.  
What will I do?  
Address the issue or reply back to you.  
Tell me.

 **RAKESH BAROLIYA** 1:00:51  
Just a common man for ecology.  
Everyone we are considering request.  
We'll just leave it.

 **Seetha Parameswaran .** 1:00:55  
How how can I do a common email?

 **RAKESH BAROLIYA** 1:00:59  
I'm. Yeah.  
I'm not saying to you and we are saying just yes or some some weaponless.

 **SUNANDA SHARMA** 1:01:01  
At least announcement in canvas something. Uh.

 **Seetha Parameswaran .** 1:01:02  
No, no, I.

 **ARUN KUMAR MOHANDAS** 1:01:03  
On the yeah, there can be at least.

 **Seetha Parameswaran .** 1:01:05  
Oh, OK.

 **ARUN KUMAR MOHANDAS** 1:01:05  
Yeah, there can be a reply on the discussion as well, right. So.

 **Seetha Parameswaran .** 1:01:07  
They do come any minute. That's fair.

 **ARUN KUMAR MOHANDAS** 1:01:11  
On.

 **Seetha Parameswaran .** 1:01:11  
I I started off at all late to the coast.  
This is something that is related to the exam which is being taken by the respective exam because they will address this.

 **RAKESH BAROLIYA** 1:01:24  
Yes, ma'am.  
Actually we are using the same point here because no one is listening from last 48 hours pair.

 **SATHYA PRIYA V** left the meeting

 **RAKESH BAROLIYA** 1:01:30  
Try everywhere.  
That's why we have any concern.

 **ARUN KUMAR MOHANDAS** 1:01:34  
Even a single common in the discussion thread would help everyone be aware.

 **Seetha Parameswaran .** 1:01:37  
I pass on this even I'm not.  
I'm not even going to contact them directly.  
It will be less is passed on passed on passed on.  
So the concern that that is right, even I may get a delayed response, so Please wait, Please be patient.  
Yeah.

 **ANWARUDDIN BISWAS** 1:02:03  
That's really now after looking this afternoon, Madam, it's likely to seems to me that sorry, uh, I would be.  
I will be unable to continue the lease here to I I'm afraid that I will be unable to continue the program.  
This my doesn't actually dream goal to uh.  
Talk to the intake and if unable to do that very hard thing to do to change in the policy.  
That's a very nothing better.

 **K NAVIN KUMAR** 1:02:31  
Yeah.  
So, Mama, it has.  
It has come to the point it has come to the point where all the students are feeling that, you know, if if this is how it the exam is scheduled, is it even OK to persuade the course or not?

 **HARSH NARAYAN CHAURASIA** left the meeting

 **K NAVIN KUMAR** 1:02:44  
Uh, so it is.  
I mean, we are not able to focus really well on the subjects at this point because of the sudden guideline change and few people are all in abroad and all.

 **Paras .** 1:02:55  
Yeah.

 **K NAVIN KUMAR** 1:02:56  
So that's the reason we're bringing up in the class like this.  
So yeah.

 **Paras .** 1:03:01  
Well, I know just to add on and to retreat.

 **ANWARUDDIN BISWAS** 1:03:03  
It's a little metal, lot of mental pressure, Madam.

 **Paras .** 1:03:07  
Uh. Hello.  
Yeah, just to reiterate our demand and we're trying to say is like the official channel is the email ID.

 **ANWARUDDIN BISWAS** 1:03:14  
That's really.

 **Paras .** 1:03:14  
And I think you can just add in share your thoughts there and definitely I think the concern team will respond back, uh, we may not be able to like help you taking decision in this meeting that we are having all the web now and the official channel is the best.  
Ohh way forward and definitely like.  
Meanwhile, going through this session and then focusing on the topic is what we can do at this point in time, so I know there is not the answer you're looking for, but the the official channel that we have will be following is the email and let's hope for the best.

 **KUEEN PEGU** 1:03:45  
Alright.  
Actually, we just want to make sure that the answer response we get is before the examination.

 **ANWARUDDIN BISWAS** 1:03:53  
And.  
Actually, Madam, this type of.

 **Seetha Parameswaran .** 1:04:01  
Definitely you will get it response before your exam, right?

 **ARUN KUMAR MOHANDAS** 1:04:02  
Because that.

 **KUEEN PEGU** 1:04:05  
When it it should not be just be just two days or one day before the exam.

 **RAKESH BAROLIYA** 1:04:05  
Employee tickets.

 **KUEEN PEGU** 1:04:09  
And they say that no, we won't be able to shift it to offline on from offline on offline to online and it will be quite difficult for us to plan.  
So this this is the reason we are rushing for an response from their side.  
Also from your side.

 **ARUN KUMAR MOHANDAS** 1:04:29  
It is January 21st actually, so date is approaching fast.

 **RAKESH BAROLIYA** 1:04:30  
And hope.

 **KUEEN PEGU** 1:04:32  
Yeah, and we.

 **RAKESH BAROLIYA** 1:04:32  
Yeah.  
Hold hold all ticket data also nearby name.

 **KUEEN PEGU** 1:04:35  
And yeah, the deadline is 27th of December.

 **ANWARUDDIN BISWAS** 1:04:36  
Right.

 **RAKESH BAROLIYA** 1:04:36  
It's just 27 I think.  
Yes, that's it.  
That's the main concern.

 **ILYAS MOHD** joined the meeting

 **ANWARUDDIN BISWAS** 1:04:42  
At least.

 **RAKESH BAROLIYA** 1:04:42  
Every spanning.  
Is that what you have to download? Where?

 **Seetha Parameswaran .** 1:04:48  
I pass on this concerns see as yes.

 **ANWARUDDIN BISWAS** 1:04:50  
Thank you.  
Actually this circle circle actually it is a lot of pressure on us.

 **Seetha Parameswaran .** 1:04:55  
But all we can do is pass off these concerns.

 **ANWARUDDIN BISWAS** 1:04:57  
Madam, please, Madam, please.

 **ADITYA GAURAV** left the meeting

 **Seetha Parameswaran .** 1:05:02  
In passing the concerns, but I'm not deciding authority.  
Please understand that I'm not the final deciding authority.

 **RAKESH BAROLIYA** 1:05:11  
Yes, ma'am, we do agree.

 **ANWARUDDIN BISWAS** 1:05:12  
Without you understanding.  
As in our understanding, our circumstances.  
Uh, please.  
Uh, uh mail.

 **PARAS KOHLI** left the meeting

 **ANWARUDDIN BISWAS** 1:05:21  
Please take command.  
Recommend something.  
Uh.  
Understanding that you or to the higher authority to job or the server.

 **Seetha Parameswaran .** 1:05:29  
Definitely, definitely.

 **SUNANDA SHARMA** 1:05:30  
Uh, so ma'am, we are agree.  
Like you're not the decision maker, but please make sure that you can raise our voice because we are not hearing through the other channel we have raised.  
I think you can help us to, you know, volume out for them so that they can hear our concerned. Thanks.

 **Seetha Parameswaran .** 1:05:48  
That's what I'll pass on the information, whatever emails I have received.  
I've already forwarded to the concerned authority, but that doesn't mean that you keep forwarding the email.  
Mean you keep writing to me so that you know it will go into the.  
No, this is this concern.  
Was there no, it's just for you.  
There are multiple students who are having the same concern.  
The whoever has raised it, I thought it forwarding to the transformed the arity and I will also mention that this is what the feedback that I received today's webinar.  
OK.  
Is that fine?

 **K NAVIN KUMAR** 1:06:26  
Sure, man.  
Yeah, that should really help.  
Yeah.

 **PUSHPENDRA SINGH KHARSAN** 1:06:28  
Thank you, ma'am.

 **Seetha Parameswaran .** 1:06:28  
Yes.

 **K NAVIN KUMAR** 1:06:29  
Thank you.

 **Seetha Parameswaran .** 1:06:31  
Yeah.  
OK, now coming back to our assignment is there is, are there any other questions?

 **JAGADISH NAYAK** joined the meeting

 **Seetha Parameswaran .** 1:06:40  
Please post all the assignment related questions please.  
It's supposed to be in the when I checked in the discussion forum itself, there are two two discussions open which is which is having the same query.  
Please read through what is there.  
Open it.  
Your title may be different, that is.  
So 4 only.  
Yeah.

 **ESAKKIAPPAN E** 1:07:17  
Now your voice is breaking, ma'am.

 **Seetha Parameswaran .** 1:07:17  
Today.

 **HEMANTH M** 1:07:31  
Ma'am, your voice was breaking.  
And I have one question regarding Part B implementation.  
You, you fear actually taking a large language model and fine tuning it is that is that considered OK for Part B because we will not be in that case.

 **AFREEN REENA BAHAR** joined the meeting

 **ASHA ALEX** left the meeting

 **AZARUDEEN A** left the meeting

 **HEMANTH M** 1:07:49  
Actually we are not building the building all the layers where we'll be taking a pre trained model and then fine tuning it is that is that OK?

 **NICKY KATTUKARAN** left the meeting

 **HEMANTH M** 1:08:17  
To my mind, was asking actually for Part B where we have to implement one of the papers you.  
Is it OK to take up retrain model and then fine tune it without actually building the entire architecture of the layers and all those things?  
If we don't add to anything that is already created.  
I think you are having network issues not able to hear you.  
Maybe Paris.  
You can.  
Yeah, you can respond, yes.  
OK.  
OK.  
Got it.  
Yeah.  
Thank you.

 **Seetha Parameswaran .** joined the meeting

 **JESINTA ROZARIO** 1:09:16  
So, ma'am, this is not a question.

 **Seetha Parameswaran .** 1:09:17  
Why is it to the disability?  
So we provide all the information.  
No, let me and come.  
You need to when I say to the best possible way, because all the journalists may not want, some of them may have hidden some values of hyperparameters and then you will have to assume them.

 **ESAKKIAPPAN E** left the meeting

 **MOHOD SAGAR SUNIL** left the meeting

 **Seetha Parameswaran .** 1:09:42  
Let's say you're the listening.  
When we are evaluating, we will be cross verifying against the Journal that is selected by you.

 **HEMANTH M** 1:09:52  
OK.

 **Seetha Parameswaran .** 1:09:53  
Got it.

 **HEMANTH M** 1:09:53  
Got it.  
Yes, thank you.

 **Seetha Parameswaran .** 1:10:03  
I'm.  
This was asking.  
I ended up with somebody.

 **JESINTA ROZARIO** 1:10:09  
So my my question was I I do not want to discuss about the assignments or the the other offline exam thing that's cleared.  
I also want to know do you guys support in writing papers or doing our own research?  
Like can we get a TA or some teacher to help us out in it?  
Because we kind of did not get any response in the first semester from teachers.

 **PURUSHOTHAM K** left the meeting

 **JESINTA ROZARIO** 1:10:35  
So that's one of the questions I have in mind.

 **Seetha Parameswaran .** 1:10:38  
Mostly it will be in the 4th semester.  
Dissertation no tune in the post.

 **JESINTA ROZARIO** 1:10:43  
Only in the dissertation.  
So what if I want to do a research like a part from that?  
If I have something in mind, or do I get support from you guys regarding that?  
Or is it something that I only can seek help in the 4th semester only?

 **Seetha Parameswaran .** 1:11:01  
Umm.  
Ohh OK see.  
Alright, good.  
Like the prerequisites.

 **JESINTA ROZARIO** 1:11:20  
Ohh ma'am, your voice is not audible.

 **Seetha Parameswaran .** 1:11:21  
2.

 **JESINTA ROZARIO** 1:11:27  
Ohh I can drop an email if it is a problem.

 **Seetha Parameswaran .** 1:11:28  
Be done for the 12 courses?

 **JESINTA ROZARIO** 1:11:30  
I can drop an email regarding this.

 **Seetha Parameswaran .** 1:11:31  
The prerequisite is that you should have completed or you would have completed all the 12 person.

 **JESINTA ROZARIO** 1:11:39  
OK.

 **Seetha Parameswaran .** 1:11:39  
Yeah. Drop.

 **JESINTA ROZARIO** 1:11:41  
Yeah.

 **Seetha Parameswaran .** 1:11:41  
Yeah, I'm audible.

 **JESINTA ROZARIO** 1:11:42  
Yeah, I'll drop you an email regarding this.  
Yes, ma'am.

 **Seetha Parameswaran .** 1:11:46  
Ah, now that I'm audible.  
What the prerequisite for doing the research in any of the topic?  
I don't know which topic you're looking at.  
Will be that you would have.

 **JESINTA ROZARIO** 1:11:53  
Yeah.

 **Seetha Parameswaran .** 1:11:54  
You should have completed all the 12 courses.

 **JESINTA ROZARIO** 1:11:58  
OK, so that is the prerequisite. OK.

 **Seetha Parameswaran .** 1:11:59  
But as you do that guy static, so that is why we are saying in the 4th semester it is not to stop you from doing your research or anything.  
But for us to have a common ground for doing your work.

 **JESINTA ROZARIO** 1:12:08  
OK.  
OK.

 **Seetha Parameswaran .** 1:12:14  
We should establish a common ground to work right from their only we can build.

 **JESINTA ROZARIO** 1:12:17  
Yes, that's correct.

 **Seetha Parameswaran .** 1:12:19  
So yeah, so that is why we are saying.  
So when you do it in the dissertation, we know that we would have completed these these these courses.

 **JESINTA ROZARIO** 1:12:27  
Umm.

 **Seetha Parameswaran .** 1:12:27  
So that will give us an idea, especially the core courses.  
We have an idea and we will probe you on the electives or we will have the data based.

 **JESINTA ROZARIO** 1:12:32  
OK.

 **Seetha Parameswaran .** 1:12:35  
So for four.  
Select.  
So based on that, we will be able to help you in your research work on your destination.

 **JESINTA ROZARIO** 1:12:44  
So, ma'am, if in the email if in the email I send you a detailed list of the electives that I'm going to choose and the third semester itself, and in that way, if I provide you a list of topics that I'm interested in, would you be able to help me out if those would be the right electives for me or is it going to be like or do I need to do my own research?

 **JAGADISH NAYAK** left the meeting

 **JESINTA ROZARIO** 1:13:10  
Like will I get support from you guys regarding that or is it going to be like my own research I'll have to figure that out.

 **CHAITANYA CH** left the meeting

 **Seetha Parameswaran .** 1:13:17  
OK.

 **VIJAYALAKSHMI J** left the meeting

 **Seetha Parameswaran .** 1:13:22  
Uh ah. No.  
Uh uh.

 **PARDEEP SONI** joined the meeting

 **Seetha Parameswaran .** 1:13:29  
Yeah.

 **JESINTA ROZARIO** 1:13:31  
Mom, your voice is breaking again.

 **Seetha Parameswaran .** 1:13:32  
How do you how do you?  
You were you able to do?  
Anybody.  
Anybody heard me?

 **JESINTA ROZARIO** 1:13:39  
No, I don't think so.

 **VENKATA SRIDHAR AMBATI** left the meeting

 **ALUPULA NARESH** left the meeting

 **AFREEN REENA BAHAR** 1:13:43  
It's the same.  
We cannot hear you.

 **Seetha Parameswaran .** 1:13:52  
The soft reboot.  
Can you hear me now?

 **JESINTA ROZARIO** 1:13:59  
Yes, ma'am.

 **Seetha Parameswaran .** 1:14:02  
Yeah.  
So what I was saying is email me the details.

 **JESINTA ROZARIO** 1:14:05  
OK, I'll do that.

 **Seetha Parameswaran .** 1:14:06  
Then we will do an A, A I mean we will do a connect another day.

 **JESINTA ROZARIO** 1:14:11  
OK.  
Perfect, man.  
I'll send you an email with that, alright?

 **Seetha Parameswaran .** 1:14:14  
Yeah.  
No, and for that email, the reply will be only after 1st of June.

 **JESINTA ROZARIO** 1:14:20  
That's OK, ma'am.  
You can take your time, no worries.

 **Seetha Parameswaran .** 1:14:24  
No, I'm telling you now itself it will be only after I I'll read.  
I'll miss him through it, but keep it there as a pending work and I will respond to you only after first of that, OK.

 **JESINTA ROZARIO** 1:14:37  
It's look him up.  
I'll.  
I'll drop you a follow up email on 5th of Jan.  
It's OK.  
Thanks a lot ma'am.

 **Seetha Parameswaran .** 1:14:50  
Yeah.  
And deciding assignment.

 **Seetha Parameswaran .** left the meeting

 **PARDEEP SONI** left the meeting

 **Seetha Parameswaran .** joined the meeting

 **RAKESH BAROLIYA** left the meeting

 **Seetha Parameswaran .** 1:15:04  
Any other questions regarding the assignment?

 **ARUN KUMAR MOHANDAS** 1:15:11  
Member it's suppose I'm taking medical image domain and I I'm actually choosing one of the papers for which I am planning to do the coding like a detecting Alzheimer's on MRI scan reports.  
That is it.  
So is it expected that the other two papers that I'll be using for comparison under part A would be actually a ultimate detection itself?  
Or is it like can I select other use cases in those mics like cancer detection for non amris cancer.  
I just wanted to be clear on that.  
So in short, the should the use case period did the same for the three of those papers?

 **Seetha Parameswaran .** 1:15:49  
You can do Alzheimer's on the other sensor.  
Umm.  
Information also, but stick to Alzheimer's because the way Alzheimers are detected is different from the way cancer is detected.

 **ARUN KUMAR MOHANDAS** 1:16:05  
So you're saying that the three peoples should be on The Alchemist detection?  
If I'm going to choose this, OK.

 **Seetha Parameswaran .** 1:16:09  
That it hit it, but you can use the data can be instead of images you can use the sensor the uh smart where devices you have, right, the wearables.

 **ARUN KUMAR MOHANDAS** 1:16:12  
Thank you. Yeah.

 **Seetha Parameswaran .** 1:16:25  
Uh, deliverables, that is also being used and that is also a a point of study.

 **ARUN KUMAR MOHANDAS** 1:16:33  
OK.

 **Seetha Parameswaran .** 1:16:34  
And those detection?

 **ARUN KUMAR MOHANDAS** 1:16:36  
OK.  
Right now.

 **Meet Shah** 1:16:39  
And ma'am, for the comparison part in the assignment.  
So we have to compare all the three papers and in that we also have to write the number of layers and activation functions and features that have been used in those papers.  
But what if some papers have not?

 **Seetha Parameswaran .** 1:16:56  
Hmm.

 **VENKATA SRIDHAR AMBATI** joined the meeting

 **Meet Shah** 1:16:58  
Well Ohh, specifically mentioned those like.  
Wouldn't that be a part of the code only?  
I mean?

 **Seetha Parameswaran .** 1:17:07  
So you mentioned that it is not available billions of people.

 **Meet Shah** 1:17:12  
Ah, OK, yeah, OK, fine. Yep.

 **Seetha Parameswaran .** 1:17:15  
Yeah.  
What if it is not given in the paper?  
What can you do, right?

 **Meet Shah** 1:17:19  
Yeah, OK, cool.

 **Seetha Parameswaran .** 1:17:21  
Yeah, but the others students, they say they need choose a different people.  
Hey, that's not me.

 **Meet Shah** 1:17:33  
Ohh.

 **Seetha Parameswaran .** 1:17:37  
But that depends on your work.  
OK, if it is very rare field and then you have your other choice, then you have to use that and you have to mention that it's not feeling that telling.

 **Meet Shah** 1:17:46  
Ah, yes, actually we we have used the music generation.  
So we are struggling to find good papers also for that.

 **Seetha Parameswaran .** 1:17:57  
Ohh yeah yeah.  
Yeah, whatever it is, whatever answers you are writing, we will be there firing back to the journals that it's not about my domain knowledge or the TS domain knowledge or the evaluators domain knowledge.  
We will be verifying against your journals the understand the Journal study the journals thoroughly.  
The benchmark is the journal.

 **Meet Shah** 1:18:25  
OK.

 **Seetha Parameswaran .** 1:18:25  
Not even the other students are not even my domain knowledge.

 **Meet Shah** 1:18:26  
Yeah, makes sense.

 **Seetha Parameswaran .** 1:18:28  
Yeah.  
So how do I evaluate that?  
Is the question that I have to ask right?  
It is not according to my knowledge, it is according to the journals that are there.  
That is why we're saying you have to upload all the journals.

 **Meet Shah** 1:18:43  
OK.  
Thank you.

 **Seetha Parameswaran .** 1:18:48  
OK.  
I guess there are no other questions if there are any more questions, please ask me the discussion forum.  
Over to you Monica.  
Monica.

 **SANDEEP KIRWAI** left the meeting

 **SATYA PRAKASH PANDIT** 1:18:59  
Madam, last question, the topics could be anything other than that list, right?

 **Seetha Parameswaran .** 1:19:05  
Yes, I have mentioned it that you can choose your own domain.

 **SATYA PRAKASH PANDIT** 1:19:09  
OK.  
Thank you.

 **Mounika** 1:19:14  
Yeah, on.

 **Seetha Parameswaran .** 1:19:15  
Yeah, I am.

 **Mounika** 1:19:15  
Thank you, mom.

 **MEDAMARTI TEJO VARDHAN** joined the meeting

 **Seetha Parameswaran .** 1:19:17  
Yeah.  
Yes.  
Thank you.

 **Mounika** 1:19:18  
Yeah, sure. No.

 **Seetha Parameswaran .** 1:19:19  
Take it over.

 **ILYAS MOHD** left the meeting

 **Seetha Parameswaran .** left the meeting

 **Mounika** 1:19:28  
Yeah, hope my screen is visible to you all.  
So we have only 10 minutes left.  
So yeah, so just explain what is meant by 11 and L2 regularization.

 **HEMANTH M** 1:19:34  
Yeah, I can.

 **Mounika** 1:19:39  
So this is the common techniques used in neutral networks to prevent again overfitting and to improve the generalization performance.  
So they involve adding the regularization terms to the last function during the training, penalizing large weights in the network.

 **KRISHNA KUMAR, M** left the meeting

 **VENKATA SRIDHAR AMBATI** left the meeting

 **BRAMARAMBIKA AMBATI** left the meeting

 **MOHD IRFAN AZAM** left the meeting

 **Mounika** 1:19:55  
So we will see and we have equations like L1 regularization, term L2 regularization term and if we use L1, what are the effects?  
For example, if I use L1 regularization, it encourages sparsity in the weights, meaning that many weights become exactly 0.  
This can be beneficial for feature selection as it effectively prunes less important connections, leading to a simpler model and the same for L2.  
We have again the different mathematical function and L2.

 **REHAN AHMED SIDDIQUI** left the meeting

 **Mounika** 1:20:22  
It tends to spread the impact of the weights more evenly across all features, preventing any single weight from dominating the learning process.  
So these are the benefits and from Keras we can import both the L1 and L2 regularizations.  
So again, the same code, same data set, same model and I'll just show you where we are applying the I'll want regularization.  
So this is how they are adding that regularizations.  
Here they are using L2 regularization.

 **HARSHAV KUMAR** joined the meeting

 **Mounika** 1:21:10  
So in the real non model only here we will add layers, activation, kernel regularization.  
So this is just an again the separate option in the model.  
And you you need to use it and see how your, uh validation accuracies and everything is like changing.  
For the 4th one is even working with the different optimization.  
Optimization optimizes.  
You'll also we use the same meminisse data, rent a spirit and everything.

 **ASANG KUMAR SINGH** left the meeting

 **Mounika** 1:21:47  
So here they have used Adam Optimizer so you can use any of the other optimizers and see how your model is performing.  
So this is again with the RMS prop optimizer.  
Again, anyone quickly say what is the use of optimizers.

 **HEMANTH M** 1:22:18  
I believe that's how the algorithm which actually can.

 **Mounika** 1:22:20  
Hey please, please please.  
That replay in chat. Yeah.  
Thank you.  
So for example, if we are using RMS prop optimizer, it's an optimizer algorithm commonly used in training deep neural networks.  
It belongs to a family of adaptive learning rate methods and addresses some of the limitations of using the stochastic gradient descent, so they have like weight update rule will be different and the principles of learning the weights will be different.  
Adjusting the learning rates will be different, so each optimizer will come with the different types of equations.  
So if you use that in your data set, you will know what what are the extra things you're getting.  
So he had they used different optimizers and this is how they configure the model.  
So we will upload this notebooks just run this notebook.  
Understand what is meant by each terminology and why we are using this and print the training and testing accuracy as well as plot the curves.

 **NANDANA GHOSH** joined the meeting

 **DARASRANI T** left the meeting

 **Mounika** 1:23:37  
So and do the exercises because if you do the exercises, you know how you need to modify the architecture, how you need to tweak the architecture and if you are and if you have time, just do the same thing, same modeling with different data set with different multiclass classification data set or with binary data set.  
And if you're using binary data set, what are the parameters you need to change?  
What is the loss you need to change?  
What is the activation function you need to change, so you need to think in that perspective.

 **KASHIF SAIYED** left the meeting

 **Mounika** 1:24:08  
Then you'll have like a lot of learning.  
If you have any doubts you can ask me.  
Otherwise we'll end this session and we will share this notebooks to you.

 **T ARUN KUMAR** left the meeting

 **Mounika** 1:24:30  
And one more suggestion is please don't worry about the exams because they all know right you are not in a position to go through that.  
So please concentrate on learning and they will take some good decision.  
Only you can talk with them Sita.  
Ma'am, we'll talk with them.  
So don't let your mind spoil because of the decision you tell your perspectives and focus on your learning part.  
Don't let others to disturb regarding this and you also don't disturb they.  
They they will all hear your things because it's a hierarchy, right?  
People will take them up to that and they will also listen.  
Hope you all think about your learning and will learn.  
Yeah.  
Then that's it.  
Uh, you can all like leave and concentrate on learning like new things and all.

 **NAVEEN G** left the meeting

 **Mounika** 1:25:22  
But in meeting the next webinar.

 **ARPITHA D** left the meeting

 **M. SREENIVASA BHARGAVA** left the meeting

 **VAIBHAV KUMAR GAUTAM** left the meeting

 **MAINAK BANERJEE** left the meeting

 **DEEPAN SRINIVASAN M** left the meeting

 **PRITAM MONDAL** left the meeting

 **NILA R** left the meeting

 **SUNANDA SHARMA** left the meeting

 **VIJITH V DANIEL** left the meeting

 **GANNAMRAJU PALA SHANKAR RAO** left the meeting

 **PULLE ABHISHEK BHARGAV** left the meeting

 **YOGEESH BABU B R** left the meeting

 **Paras .** left the meeting

 **SHANKARANAND JHA** left the meeting

 **HIMANSHU YADAV** left the meeting

 **AFREEN REENA BAHAR** left the meeting

 **PATHAN IRFAN JAHANGEER** left the meeting

 **PRASHANT SRIVASTAVA** left the meeting

 **ADAPA HEMACHAND** left the meeting

 **PRADEEP KUMAR SONI** left the meeting

 **Meet Shah** left the meeting

 **GOVIND KUMAR** left the meeting

 **MEGHA GOYAL** left the meeting

 **HARSHAV KUMAR** left the meeting

 **RAMYA J T** left the meeting

 **SATYA PRAKASH PANDIT** left the meeting

 **JESINTA ROZARIO** left the meeting

 **KAMAL SINGH** left the meeting

 **NANDANA GHOSH** left the meeting

 **PATRISHIA PASCOAL MEENA RODRIGUES** left the meeting

 **NEHA RAJESHKUMAR TAPADIYA** left the meeting

 **ANKIT KUMAR** left the meeting

 **BIHARI MOHAN AWADH** left the meeting

 **SRILEKHA VINJAMARA** left the meeting

 **SANJEEV KUMAR YADAV** left the meeting

 **RAHUL VERMA** left the meeting

 **KUEEN PEGU** left the meeting

 **ANANDPREMKUMAR P** left the meeting

 **Mounika** left the meeting

 **HEMANTH M** left the meeting

 **PRERNA WAGHRAY** left the meeting

 **JITENDRA DUA** left the meeting

 **PUSHPENDRA SINGH KHARSAN** left the meeting

 **P SAI RAMA KRISHNA** left the meeting

 **KRISHNA CHAITANYA K** left the meeting

 **ASHISH KUMAR** left the meeting

 **K NAVIN KUMAR** left the meeting

 **RITHU SAJI** left the meeting

 **ARUN KUMAR MOHANDAS** left the meeting

 **VIKAS VILAS PAWAR** left the meeting

 **PATIL SHRIKANT TUKARAM** left the meeting

 **NISHAN KUNDU** left the meeting

 **AFTAB HASSAN** left the meeting

 **SASIKUMAR S** left the meeting

 **JYOTHI KRISHNAN** left the meeting

 **K VIJAYA VARAPRASAD** left the meeting

 **PREETHA S** left the meeting

 **MANJUPRASAD N** left the meeting

 **EZHIL MARAN R** left the meeting

 **RAVI RANJAN** left the meeting

 **NIDHI SAINI** left the meeting

 **MEDAMARTI TEJO VARDHAN** left the meeting

 **AALEKH SHRIVASTAVA** joined the meeting

 **AALEKH SHRIVASTAVA** left the meeting

 **AALEKH SHRIVASTAVA** joined the meeting

 **AALEKH SHRIVASTAVA** left the meeting

 **Selva Kumar** left the meeting

 **VENKATAKRISHNAN BALAN** joined the meeting

 **VENKATAKRISHNAN BALAN** left the meeting

 **SATHYANARAYANAN M K N** joined the meeting

 **SATHYANARAYANAN M K N** left the meeting

 **YUVARAJ KUMAR N A** left the meeting

 **NICKY KATTUKARAN** joined the meeting

 **NICKY KATTUKARAN** left the meeting

 **MAHENDRA KUMAR PRAJAPATI** joined the meeting

 **MAHENDRA KUMAR PRAJAPATI** left the meeting

 **ILYAS MOHD** joined the meeting

 **ILYAS MOHD** left the meeting