

## WEEK-3 REPORT : SAGNIK CHATTERJEE

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This is the weekly report for my project work under Pooja Prabhu maam on the topic:- “Identification of Epileptic Abnormalities”.

### Overview:

In this I started to code the first primitive model for the training and analysis on the University of Bonn dataset. There are 5 subdirectories for the data and each directory contains the data for 100 patients. The exact division of the how the different datasets were combined and used together on the training model is covered on the “data\_representation.txt” file in the weekly report subdirectories.

I have used a higher level keras+tensorflow api in this case for training instead of using pytorch for the implementation as the implementation of various activation function , optimizer etc are already present there and I didnt have to implement from scratch.

The model representation along with the graphical representation of all the 5 datasets are present in the Model.ipynb file in WEEK3 subdirectory in scripts directory. Along with that I have provided the model\_representation.txt in the weekly report directory.

### Work Completed:

I was able to convert the different datasets from the 5 subdirectories into a single data.csv file ,that has been uploaded into data directory. Also i have cleaned and demonstrated the data on the Model.ipynb file .

Along with that I was able to train a ‘relu’ based model with the ‘binary\_crossentropy’ loss function . A training model with batch size 15 and epoch of 50 was generated and it has shown the loss and the accuracy values in the data.

The optimizer used was default ‘adam’ and the learning rate was kept in default.

### Work To Be Done:

The things to be covered are in the default model is to clean and test the dataset . Then use the cleaned model and change the activation function to 0.01 and then increase if necessary (i.e to learn fast in the model).

Also in this model reduce the batch size and increase the epoch number of times.

Also in the first model we used a 9-layered relu based activation function to make our neural network . The performance measure of this model was not too good , and I have to tweak the model and check with other models.

Also in the model that I have trained , I had kept shuffle to false as this leads to less calculation times but this calculates faster. But keeping the shuffle to true leads to less bias. So in the upcoming models , I will keep the shuffle to true.