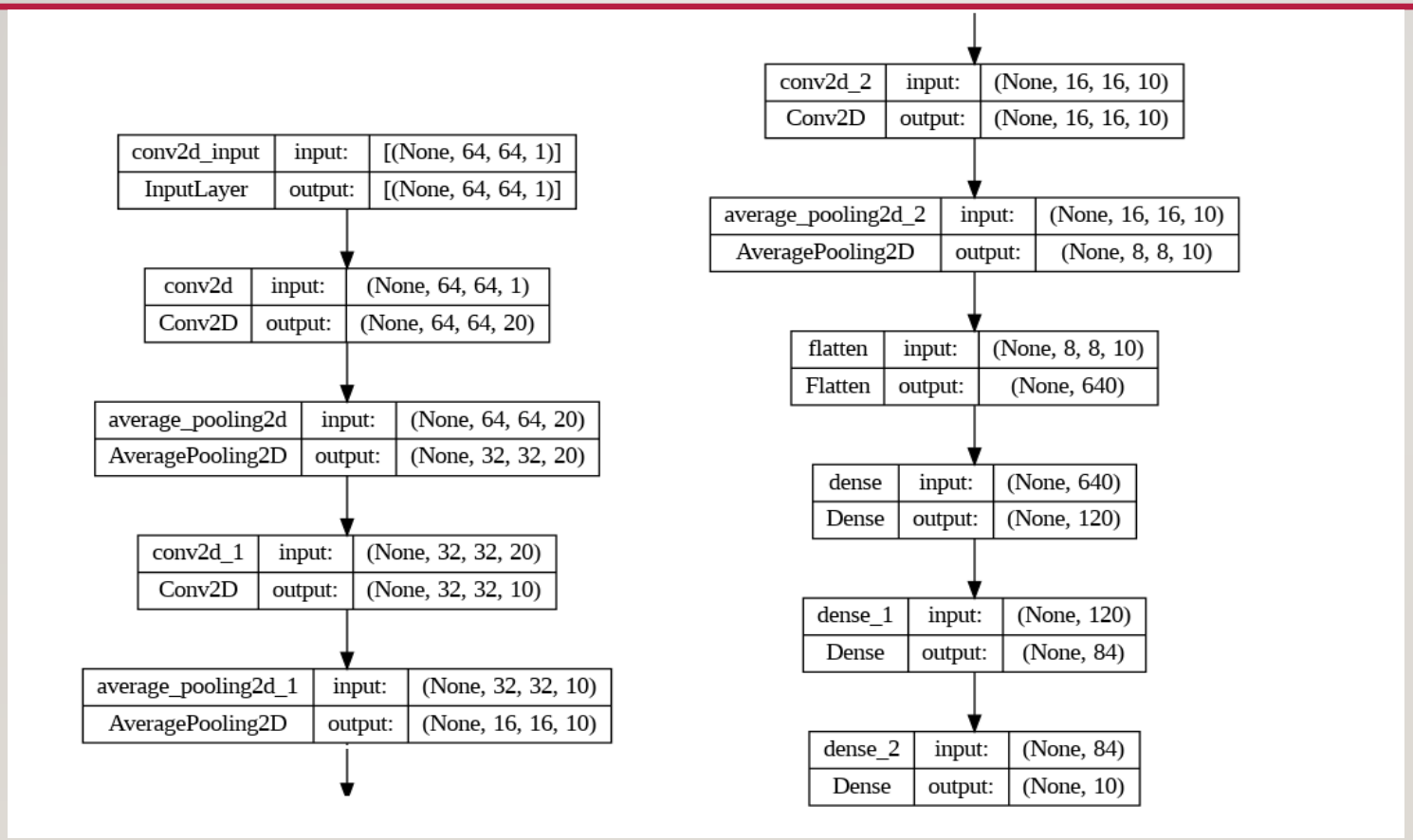
EINS

DEEP LEARNING CHALLENGE

DATA PREPROCESSING

- Create more images by rotating 90, 180 and then mirroring images.
- 6x 21785 = 130710 images were used.
- 80% for training (10% of them for validation)
- 20% to test the model

MODEL ARCHITECHTURE



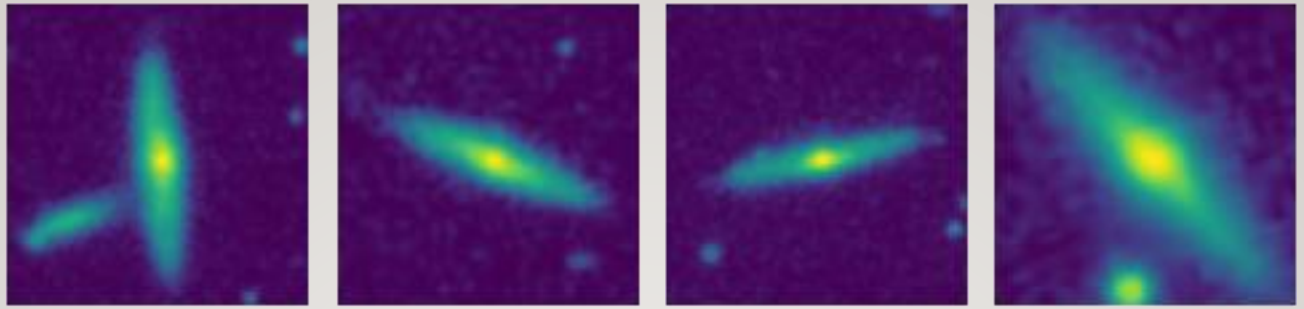
HYPER PARAMETERS

- Batch size = 128
- Epochs = to choose the global minima, we used the callback function to check validation loss does not decrease more than 0.001 within the next 10 epochs.
- Activation function used is RELU as it performed better then other functions.
- Softmax function is used at the last layer to classify the target.
- To avoid overfitting we have used Dropout option.

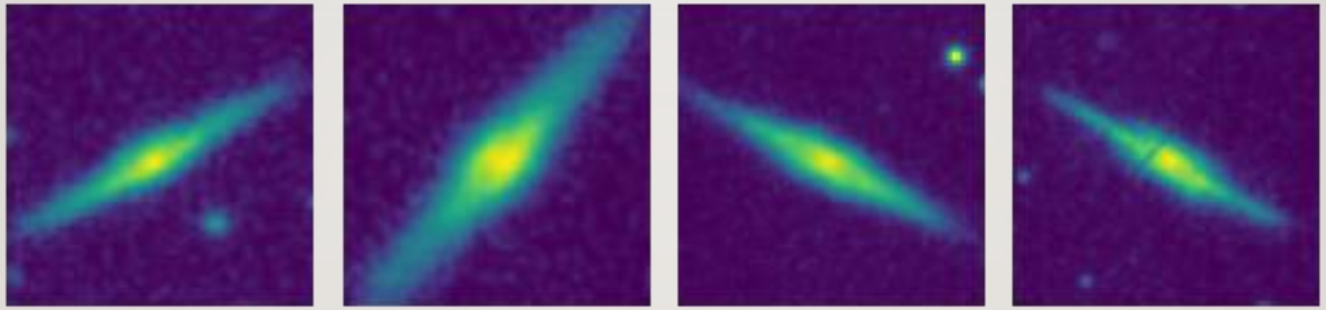
CLASS 5 PROBLEM

- we have 0.07 % of class 5 images.
- Other classes such as class 4 and class 6 are very similar to class 5 and it becomes hard to distinguish these classes.
- Added class weights to combat that.

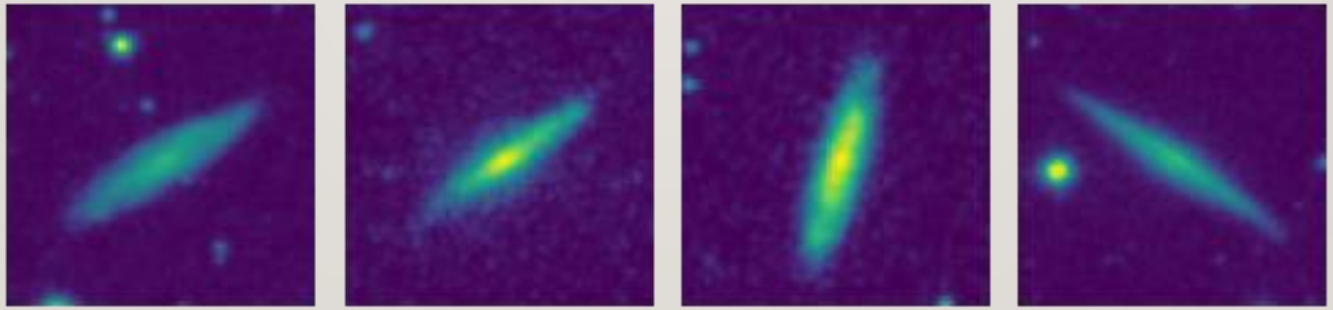
Class 4



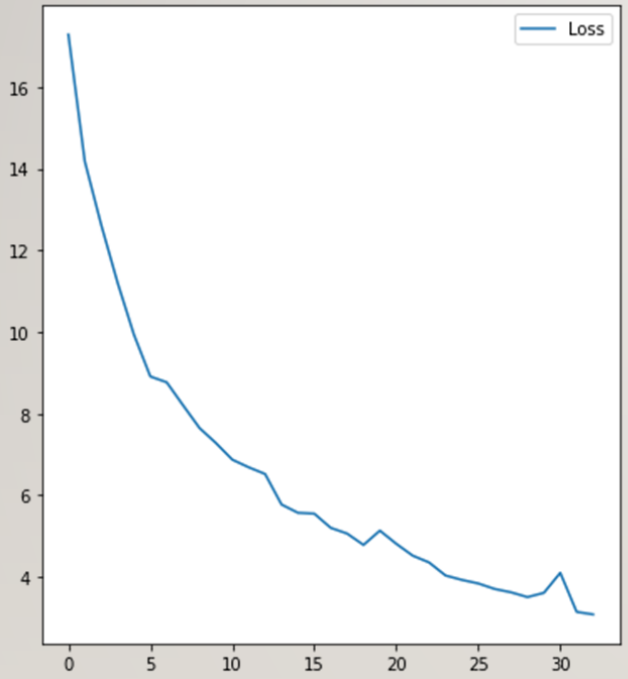
Class 5

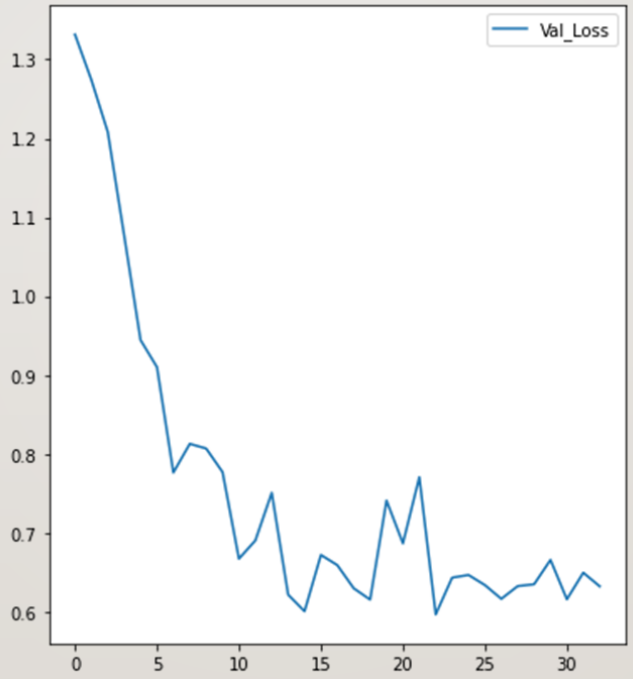


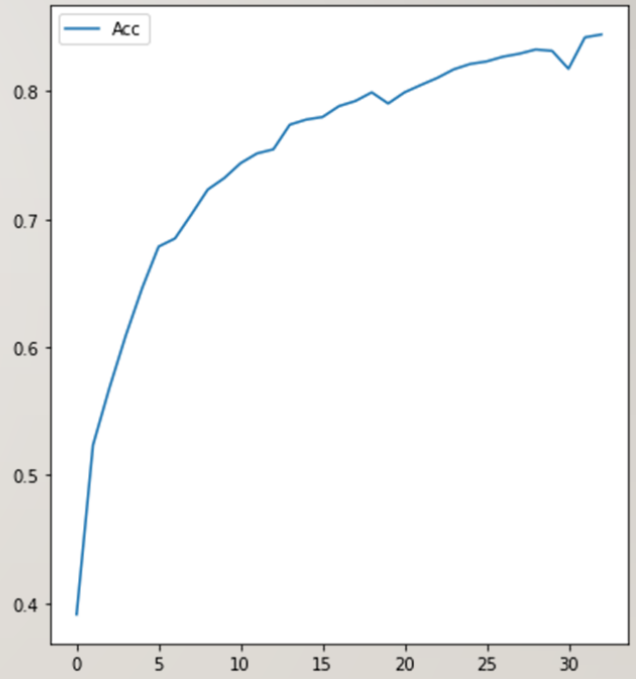
Class 6



LOSS AND ACCURACY OVER EPOCH

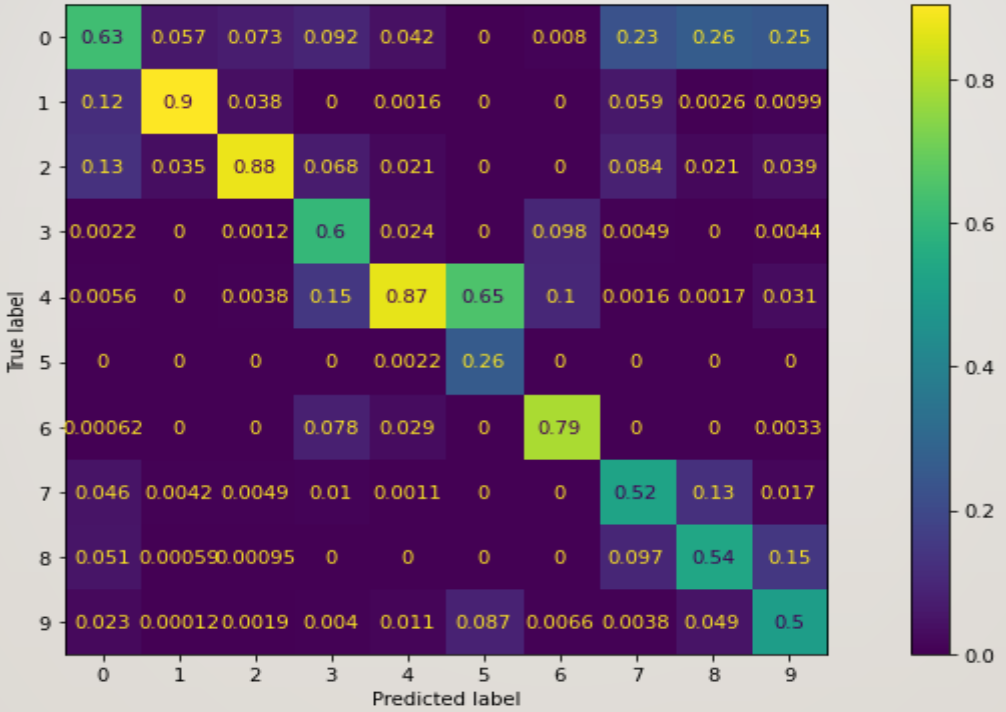






- We trained our model to take accuracy with minimal validation loss.

CONFUSION MATRIX



THANKS FOR YOUR ATTENTION