

Initial Results and Project Status

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1 Baseline

As said in the project proposal, my data is multi-label. So, I am using a multi-label classification model for a baseline. I have implemented a model same as assignment two for my baseline except that I have changed the classification layer to a multi-label classification layer. In order to do so I have changed the softmax layer to a sigmoid layer and used the `sigmoid_cross_entropy` loss instead of `softmax_cross_entropy`.

Based on the number of images for each label (diagnose) in the data-set, I have chosen five categories which there is more data for them. In order to calculate the loss for each category, images that does not have the labels for that category are not included. You can see the train loss curve in Figure 1.

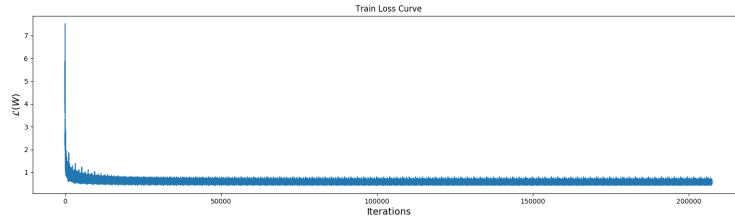


Figure 1: Train Loss Curve per Iteration

2 Future Works

First, I am going to calculate my baseline's evaluation metrics. After that, I will try to improve the model. For doing so, I can add some layers including dropout and other things in the classification part of the model. Also, I can change the Xception model and try other CNN models instead of that. Also, I can fine-tune the feature extractor part of my model.