

CSE541 Computer Vision

Weekly Report

Section-1

Group 1 - Fantastic Four

Submitted to faculty: Prof. Mehul Raval

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Student Details

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**Tasks Performed in the week:**

* As discussed with Arpit Sir, we are firstly finding out the specific reason to use a model that can be optimized, accurate and efficient for our problem.
* So we Studied Different Deep CNN models like ShuffleNet, SqueezeNet and GoogleNet along with their architecture, their differences and what makes them stand out for our project. We found them good as they have less number of parameters and appropriate in terms of speed.
* We tried to do training on our dataset on SqueezeNet and ShuffleNet. We also tried to train GoogleNet, but were not able to due to errors in our attempt.
* We also compared these models with the FaceNet Inception model and MobileNet V2 which we looked at before mid-semester Analysis.
* We also worked on creating triplets (anchor, positive and negative) for images in our dataset for the triplet loss function.

**The outcome of the tasks performed:**

* While training our dataset on these models, we faced some difficulties and errors which were quite difficult to tackle, so the models still need to be trained and revised.
* Currently, we have kept them at training again over Kaggle and the results will be produced in a while.
* While creating triplets over Kaggle notebook through our script for our dataset, its RAM normally runs out. So, we are trying to find an alternative solution for that.

**Tasks to be performed in the upcoming week:**

* In the next week, we aim to resolve the errors and small issues while training the dataset on these models, and also get some inference from the output of the training and fitting from these different models and now which one is most efficient and why.
* Another task we would like to see next week is to explore more about the problem of facing illumination in our images and videos and work towards it and implement that in our model.
* We will also try to resolve the above discussed issue about triplet generation for images in our dataset.