

B19EE098  
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Mid Term Project  
Visual Computing Lab

**1. Problem Statement:**

To create a pseudo ensemble of 5 models and then use it to obtain similar images for a given test image, and measure the performance by MAP score.

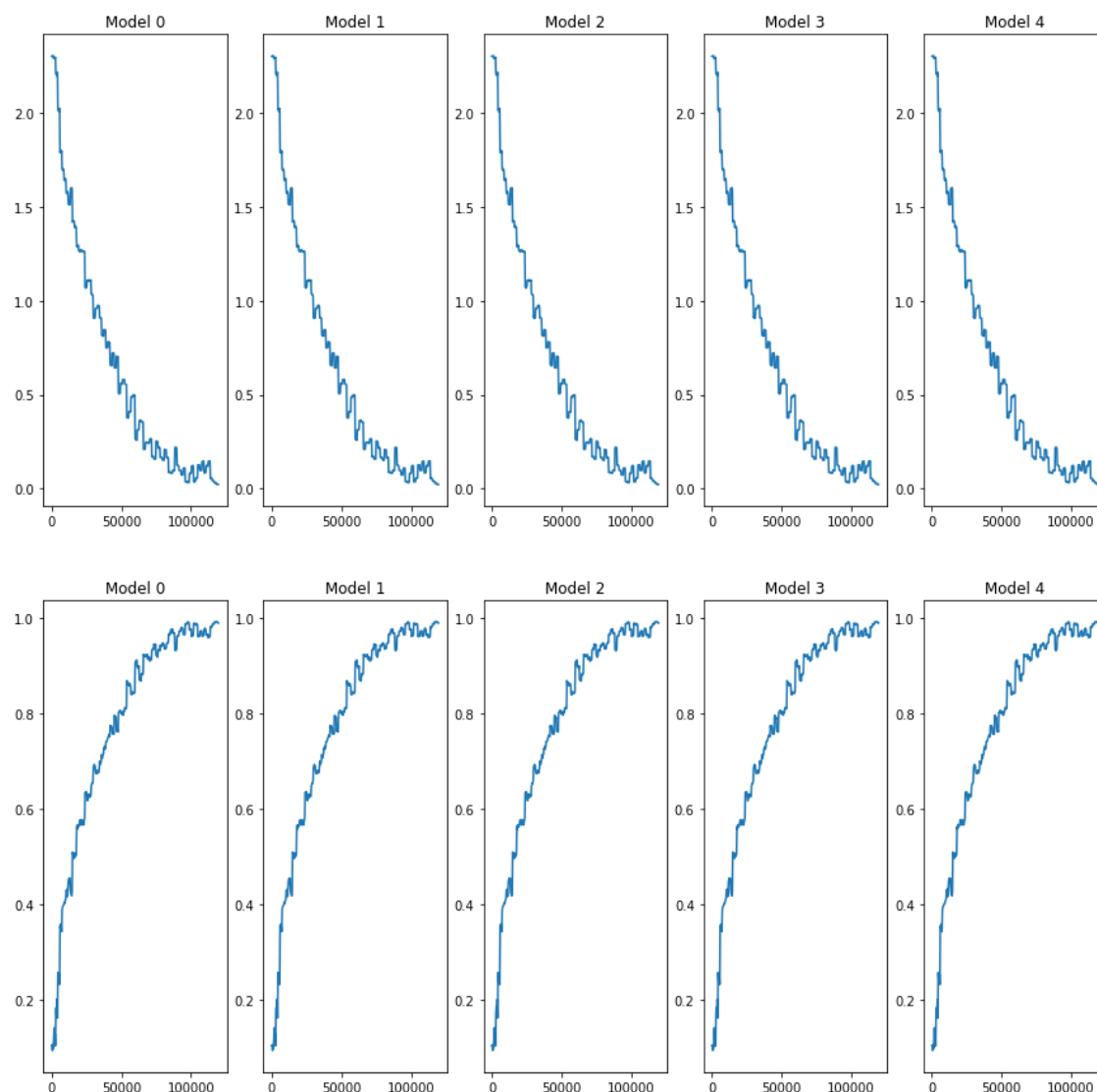
**2. Dataset Used:** Cifar 100

**3. Class Numbers:** 16 to 25

**4. Class Names (from 16 to 25):** b'can', b'castle', b'caterpillar', b'cattle', b'chair', b'chimpanzee', b'clock', b'cloud', b'cockroach', b'couch'

**5. Constraints:** Custom dataset was used and thus using simple comparison we were able to get desired classes from the dataset. For the pseudo ensemble, there were 5 parallel last layers each having 10 neurons. Similarity was calculated using `np.linalg.norm` (norm) of difference of output of last layers.

**6. Training Losses (1st Row) and Accuracies (2nd Row):**



## 7. Test accuracies:

Accuracy of the model:0 on the test images: 76 %

Accuracy of the model:1 on the test images: 77 %

Accuracy of the model:2 on the test images: 76 %

Accuracy of the model:3 on the test images: 76 %

Accuracy of the model:4 on the test images: 76 %

Accuracy of the ensemble model on the test images: 76 %

## 8. MAP Scores:

Model 0: 0.78600556

Model 1: 0.78892917

Model 2: 0.78928056

Model 3: 0.78913472

Model 4: 0.78790417

Ensemble: 0.7887736111111113

## 9. Website Screenshots:

