

Key observations from the problem statement

- Only 10 objects need to be classified
- Objects of preference can be that could help the individual - or that could harm the individual.
- Individual is expecting a Camera solution. therefore something that could run on mobile phone is expected.

Approach.

Datasets :- Common utility datasets and harmful object / things were my target.

CIFAR 100. Fits the bill.

I choose . Cockroach, television, chair, table, Cup, tree, boat, telephone, bed, couch

Model :- I considered Mobilenet v2 doing a transfer learning by freezing the weights. By removing the classification layer. and Replace with a ~~new~~ dense layer with softmax activation.

Evaluation:-

Average Evaluation on test set [PF the code for detailed classification report].

Precision	Recall.	F1-Score.
0.80	0.78	0.79.

Observation:-

As per the training observation the "model is overfitting". there is no change in validation loss. but steep decrease in training loss.

Therefore there is a need for model improvement.