

Analysis

I was not able to get all the functions running correctly so when I compare the performance of these various approaches it will be mostly from what I have learned about them.

The CNN approach should outperform the RNN approach for this image classification assignment. This is because convolutional neural networks are better suited for images than recurrent neural networks. This isn't to say that the RNN approach is not reasonable or effective. Just that typically CNN will be better with images.

It would also be expected that the sequential model by itself would also outperform the sequential model with RNN approach applied. This is because RNN specializes in things such as text for example. The overall ratings of accuracy of these programs should go in the order from best to worst, CNN, sequential model, then RNN.

The last approach attempted was the pretrained model with transfer learning. I did not know a lot about this before this project and there are still large parts of it that I do not understand very well. From my limited understanding of the subject this should have performed the best. Since the model you are using has already been trained before you ever interact with it. This is very good in our case because the data sets we get from kaggle are most likely a fraction of the images that have been passed through this pre-trained model.

So overall, I would assume the ranking from best to worst approaches for this project would be. In first place the pretrained model, followed by CNN, then the base sequential model, and lastly the model using RNN.