Image Classification: Dogs vs Cats

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CS 583-B: Deep Learning

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Abstract

This paper describes the CS 583-B: Deep Learning's submission for the final proejct: Image Classification: Dogs vs Cats. We tried to solve this problem by using CNNs. The first we used is ResNet18 and second we used is VGG19.
Github: https://github.com/qianlan97/CS583-final

1   Introduction

The problem we tried to solved is to classify dogs and cats as well as improve the accuracy as much as possible. We used two CNN models for this problem, ResNet18 and VGG19. The data we used is from the competition Dogs vs. Cats on Kaggle. The results we obatined is that both model can finish the task with high accuracy and we are yet to compare the performance of these two models.

2   Contribution

Nan Chen processed the data and implemented the ResNet18 model. Shaocheng Shi implemented the VGG19 model.

3   Method

We used ResNet18 and VGG 19 as our main methods to solve this problem

4   Data

The data we used is from the competition Dogs vs Cats on Kaggle. We select 10000 dogs' pictures and 10000 cats' pictures as our training set as well as 2500 dogs' pictures and 2500 cats' pictures as our testing set.
The link to the data: https://www.kaggle.com/competitions/dogs-vs-cats/data

5   Tools & Technologies

We primarily utilized google colab to run our models.

6   Experimentals

We are still finishing this and the results are yet to come.

7   Results

We are still collecting the results.

8   Problems/Issues

We are still anaylzing the results and identifying the problems. Our guess is that ResNet18 has better accuracy than that of the VGG19.

9   Conclusion

No conclusion is made until all steps are finished.