6. Conclusion

In this project, we attempted to predict time bucket or tag for when an image was taken. The best performing algorithms were Support Vector Machines and AlexNet, not the deeper network, the VGGNet, that we assumed would outperform most other models. This suggests that for our dataset, basic feature metrics such as color palettes were much more valuable in predicting the time taken for a picture as opposed to subtler and more complex detailed features that deeper networks are best known for. The most limiting challenge was the dataset, which was not as diverse as we had hoped and contained some glaring mislabelings.

Future work should involve collecting correctly labeled dataset which has accurate EXIF data with time adjusted to the local timezone where the image was taken. It would be interesting to use a model which is pretrained on the places dataset from MIT [11]. In this project we tested individual models on our dataset, it will be interesting to train an ensemble of models on the dataset. The images taken at the same time would be different for different locations. For example, a photo taken at 7 AM in California will be very different from an image taken at 7 AM in Greenland. Weather also plays an important role as a cloudy photograph might be darker and has a good chance of getting classified as evening or night. The dataset can also include geolocation and weather information to better guide the classifier. This problem is very challenging and an open question to the research community. More accurate data with thoughtful strategies can improve the results provided in this paper.

7. References

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