Predicting forest carbon stocks in the Eastern U.S.

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Abstract

PLACEHOLDER

1 Introduction

1.1 Problem statement

1.2 Related work

Image classification is a common problem solved using convolutional neural networks. [[DESCRIPTIONS OF IMAGENET, ALEXNET, VGGNET, GOOGLENET, AND RESNET]] [5, 6, 4].

[[PAPER]] Expanded the possibilities of using pretrained models in the described frameworks for use in more targeted settings. [[SUMMARY OF APPROACH]]. [[SUMMARY OF FINDINGS]].

In Feng et al.'s work on long-tailed object detection, they explore training classification models on highly-similar objects, a similar challenge to that conducted in this paper [2]. [[SUMMARY OF APPROACH]]. [[SUMMARY OF FINDINGS]]

Carpentier et al. use a self-collected dataset to a very similar problem: tree detection through bark [1]. [[SUMMARY OF APPROACH]]. [[SUMMARY OF FINDINGS]].

Fricker et al. also attempts to classify trees, however from an aerial perspective instead of the profile perspective taken in this paper [3]. [[SUMMARY OF APPROACH]]. [[SUMMARY OF FINDINGS]]

2 Dataset

3 Technical approach

4 Preliminary results

Broader Impact

References

References

[1] M. Carpentier, P. Giguère, and J. Gaudreault. Tree species identification from bark images using convolutional neural networks, 2018.

[2] C. Feng, Y. Zhong, and W. Huang. Exploring classification equilibrium in long-tailed object detection. In *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, pages 3417–3426, October 2021.

Submitted to 34th Conference on Neural Information Processing Systems (NeurIPS 2020). Do not distribute.

[3] G. A. Fricker, J. D. Ventura, J. A. Wolf, M. P. North, F. W. Davis, and J. Franklin. A convolutional neural network classifier identifies tree species in mixed-conifer forest from hyperspectral imagery. *Remote Sensing*, 11(19), 2019.

[4] K. He, X. Zhang, S. Ren, and J. Sun. Deep residual learning for image recognition, 2015.

[5] K. Simonyan and A. Zisserman. Very deep convolutional networks for large-scale image recognition, 2014.

[6] C. Szegedy, W. Liu, Y. Jia, P. Sermanet, S. Reed, D. Anguelov, D. Erhan, V. Vanhoucke, and A. Rabinovich. Going deeper with convolutions, 2014.