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Abstract—The abstract goes here.

I. INTRODUCTION

Over the recent few years, Convolutional Neural Network (CNN) shows its potential to replace the human engineered features, such as SIFT[1], SURF[2] and HOG[3] etc, in real object recognition tasks. The success of CNN on large scale image set started from Krizhevsky et al[4] and their 8 layer model AlexNet in 2012 ImageNet Large-Scale Visual Recognition Challenge (ILSVRC2012), reaching a on top-5 83% accuracy. Soon after, many attempts have been made to improve the model of Krizhevsky. By reducing the size of the receptive field and stride, Zeiler and Fergus improve AlexNet by 1.7% on top 5 accuracy[5]. With the help of high performances computing systems, such as GPU and large scale distributed clusters, it is possible for researchers to explore larger and more complex architecture. By both adding extra convolutional layers between two pooling layers and reduced the receptive window size, Simonyan and Zisserman built a 19 layer very deep CNN and achieved 92.5% top-5 accuracy[6]. While the AlexNet-like deep CNNs conquered ILSVRC, Szegedy et al built a 22 layers deep network, GoogLeNet [7].

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II. CONCLUSION

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REFERENCES

- [1] D. G. Lowe, "Object recognition from local scale-invariant features," in *Computer vision, 1999. The proceedings of the seventh IEEE international conference on*, vol. 2. Ieee, 1999, pp. 1150–1157.
- [2] H. Bay, T. Tuytelaars, and L. Van Gool, "Surf: Speeded up robust features," in *Computer vision—ECCV 2006*. Springer, 2006, pp. 404–417.
- [3] N. Dalal and B. Triggs, "Histograms of oriented gradients for human detection," in *Computer Vision and Pattern Recognition, 2005. CVPR 2005. IEEE Computer Society Conference on*, vol. 1. IEEE, 2005, pp. 886–893.
- [4] A. Krizhevsky, I. Sutskever, and G. E. Hinton, "Imagenet classification with deep convolutional neural networks," in *Advances in neural information processing systems*, 2012, pp. 1097–1105.
- [5] M. D. Zeiler and R. Fergus, "Visualizing and understanding convolutional networks," in *Computer Vision—ECCV 2014*. Springer, 2014, pp. 818–833.
- [6] K. Simonyan and A. Zisserman, "Very deep convolutional networks for large-scale image recognition," *arXiv preprint arXiv:1409.1556*, 2014.
- [7] C. Szegedy, W. Liu, Y. Jia, P. Sermanet, S. Reed, D. Anguelov, D. Erhan, V. Vanhoucke, and A. Rabinovich, "Going deeper with convolutions," *arXiv preprint arXiv:1409.4842*, 2014.