

Assignment 1 My References

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Submission deadline: 11 p.m., 3-12-2024

I. My Study Field:

Computer science, deep learning, computer vision, multi-modal learning.

II. Five Authorities in My Field

1. Kaiming He. He is a prominent researcher in the field of computer vision and the lead author of ResNet.
2. Yann LeCun. He is a Turing Award winner and lead author on convolutional neural networks (CNN).
3. Geoffrey Hinton. He is a computer scientist and cognitive psychologist known as the father of neural networks.
4. Yoshua Bengio. He is a professor of computer vision and operations research, a Turing Award winner, and one of the founders of neural machine translation.
5. Andrew Ng. He is an authoritative scholar in the field of machine learning and artificial intelligence, and has made great contributions to the openness of machine learning education.

III. Five Top Journals in My Field

1. IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI).
2. International Journal of Computer Vision (IJCV).
3. Journal of Machine Learning Research (JMLR).
4. IEEE Transactions on Image Processing (TIP).
5. IEEE Transactions on Multimedia (TMM).

IV. Five Top Conferences in My Field

1. IEEE Conference on Computer Vision and Pattern Recognition (CVPR).
2. International Conference on Computer Vision (ICCV).
3. International Conference on Learning Representations (ICLR).
4. International Conference on Machine Learning (ICML).
5. Conference and Workshop on Neural Information Processing Systems (NeurIPS).

V. Five Documents You Would Like to Read and Analyze for This Course

1. He, K., Zhang, X., Ren, S., & Sun, J. (2016). Deep residual learning for image recognition. In Proceedings of the IEEE conference on computer vision and pattern recognition (pp. 770-778).
2. Ronneberger, O., Fischer, P., & Brox, T. (2015). U-net: Convolutional networks for biomedical image segmentation. In Medical Image Computing and Computer-Assisted Intervention–MICCAI 2015: 18th International Conference, Munich, Germany, October 5-9, 2015, Proceedings, Part III 18 (pp. 234-241). Springer International Publishing.
3. Chen, T., Kornblith, S., Norouzi, M., & Hinton, G. (2020, November). A simple framework for contrastive learning of visual representations. In International conference on machine

learning (pp. 1597-1607). PMLR.

4. Dosovitskiy, A., Beyer, L., Kolesnikov, A., Weissenborn, D., Zhai, X., Unterthiner, T., ... & Houlsby, N. (2020). An image is worth 16x16 words: Transformers for image recognition at scale. arXiv preprint arXiv:2010.11929.
5. Radford, A., Kim, J. W., Hallacy, C., Ramesh, A., Goh, G., Agarwal, S., ... & Sutskever, I. (2021, July). Learning transferable visual models from natural language supervision. In International conference on machine learning (pp. 8748-8763). PMLR.

VI. Reasons for Your Reference Choice

1. All of the above articles have more than 10,000 citations, and some even more than 100,000 citations, with huge influence, and are absolute representatives of their respective fields and even the entire field of computer vision.
2. The above article covers recent developments in the field of computer vision, moving from traditional convolutional neural networks based on supervised learning to self-supervised and transformer architectures.
3. Some of the articles involved in the field is still very hot, the attention of many researchers, some of the views are also the inevitable trend of the development of computer vision in the future.
4. Some of these works have important application value, solving practical problems that have been insurmountable, and can be used for real applications, rather than simply staying in theory.
5. The authors of these articles almost all provide rich code for readers to further learn, which is not easy to obtain and very important resources for researchers in the field of computer science, and later work can be carried out based on the code provided by the authors.