

Domain Adaptation for Image Classification

1. Office-Home dataset is a domain adaptation dataset, which consists of 65 categories of office depot from four domains (i.e., **A: Art, C:Clipart, P:Product, R: Real-world**). The raw images can be downloaded from <http://hemanthdv.org/OfficeHome-Dataset/>.
The 2048-dim ResNet50 deep learning features of all images can be downloaded from <https://pan.baidu.com/s/1qvcWJCXVG8JkZnoM4BVoGg#list/path=%2F>.
2. Conduct experiments in the following three settings (source domain -> target domain):
a) A->R; b) C->R; c) P->R
In X->Y setting, use the deep learning features X_X.csv as source domain features and X_Y.csv as target domain features.
3. Try **deep learning feature + 3 traditional domain adaptation methods**. Use SVM as the classifier. Compare domain adaption methods with the baseline without using domain adaptation to validate their effectiveness. For the code of some domain adaptation methods, you can refer to <https://github.com/jindongwang/transferlearning/tree/master/code/traditional>. Try to tune the hyper-parameters of domain adaptation methods.
4. Write a project report in English using the provided LaTeX template. The project report should contain experimental setting, the domain adaptation methods you tried, the experimental results you obtained, the experimental observations based on your experimental results.