

seq2img

Usage

☑ Build up required environment first.

```
python train.py -m vit # --train ./split/train.txt --val ./split/val.txt
python evaluate -i ./models/resnet.pt # evaluate the model on test set (default:
./split/test.txt)
python predict.py -d ./split/test.txt -m ./models/vit_0.pt # can get predicted values
```

library info

python 3.6

torchvision 0.10
torch 1.9

Dataset

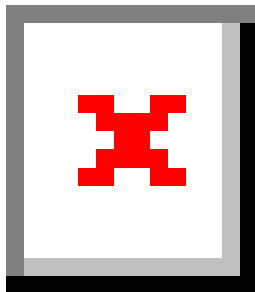
split the original data into train, validation, and test data.

```
python split.py --origin_data ./data/data.txt --split_folder ./split
```

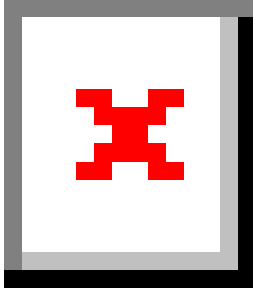
x: [attr1:[...],attr2:[...]]

e.g.,)

train label's distribution (bins = 20)



x: attr1, attr2 (14719:121*121+78)
processing: 2 seq. to 3 channel (attr1,attr2,attr2)(3x122x121)



data total
23550 item

split info

train	validation	test
8831	7359	7360

path: ./split/{train|val|test}.txt (?: there's no header)

Model

types

model	alias	
ResNet [1]	resnet	
resnext50 [2]	resnext	
Shuffle_v2 [3]	shufflenet	
SqueezeNet1 [4]	squeezenet	
MNASNet [5]	mnasnet	
MobileNet v3 small [6]	mobilenet	
Vision transformer [7]	vit	

REFERENCES

- [1] He, Kaiming, et al. "Deep residual learning for image recognition." Proceedings of the IEEE conference on computer vision and pattern recognition. 2016.
- [2] Xie, Saining, et al. "Aggregated residual transformations for deep neural networks." Proceedings of the IEEE conference on computer vision and pattern recognition. 2017.
- [3] Ma, Ningning, et al. "Shufflenet v2: Practical guidelines for efficient cnn architecture design." Proceedings of the European conference on computer vision (ECCV). 2018.
- [4] Iandola, Forrest N., et al. "SqueezeNet: AlexNet-level accuracy with 50x fewer parameters and < 0.5 MB model size." arXiv preprint arXiv:1602.07360 (2016).
- [5] Tan, Mingxing, et al. "Mnasnet: Platform-aware neural architecture search for mobile." Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition. 2019.
- [6] Howard, Andrew, et al. "Searching for mobilenetv3." Proceedings of the IEEE/CVF International Conference on Computer Vision. 2019.
- [7] Dosovitskiy, Alexey, et al. "An image is worth 16x16 words: Transformers for image recognition at scale." arXiv preprint arXiv:2010.11929 (2020).