`TensorFlow Requirement` `1.x` `TensorFlow 2 Not Supported` `✕`

Train Wide-ResNet, Shake-Shake and ShakeDrop models on CIFAR-10 and CIFAR-100 dataset with AutoAugment.

The CIFAR-10/CIFAR-100 data can be downloaded from: https://www.cs.toronto.edu/~kriz/cifar.html. Use the Python version instead of the binary version.

The code replicates the results from Tables 1 and 2 on CIFAR-10/100 with the following models: Wide-ResNet-28-10, Shake-Shake (26 2x32d), Shake-Shake (26 2x96d) and PyramidNet+ShakeDrop.

Related papers:

AutoAugment: Learning Augmentation Policies from Data

https://arxiv.org/abs/1805.09501

Wide Residual Networks

https://arxiv.org/abs/1605.07146

Shake-Shake regularization

https://arxiv.org/abs/1705.07485

ShakeDrop regularization

https://arxiv.org/abs/1802.02375

Settings:

CIFAR-10 Model	Learning Rate	Weight Decay	Num. Epochs	Batch Size
Wide-ResNet-28-10	0.1	5e-4	200	128
Shake-Shake (26 2x32d)	0.01	1e-3	1800	128
Shake-Shake (26 2x96d)	0.01	1e-3	1800	128
PyramidNet + ShakeDrop	0.05	5e-5	1800	64

Prerequisite:

1. Install TensorFlow. Be sure to run the code using python2 and not python3.

2. Download CIFAR-10/CIFAR-100 dataset.

```
curl -o cifar-10-binary.tar.gz https://www.cs.toronto.edu/~kriz/cifar-10-python.tar.gz
curl -o cifar-100-binary.tar.gz https://www.cs.toronto.edu/~kriz/cifar-100-python.tar.gz
```

How to run:

```
# cd to the your workspace.
# Specify the directory where dataset is located using the data_path flag.
# Note: User can split samples from training set into the eval set by changing
train_size and validation_size.

# For example, to train the Wide-ResNet-28-10 model on a GPU.
python train_cifar.py --model_name=wrn \
                      --checkpoint_dir=/tmp/training \
                      --data_path=/tmp/data \
                      --dataset='cifar10' \
                      --use_cpu=0
```

Contact for Issues

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