Instructions on running the experiments

As the proposed BulletTrain method is applied to AugMix, TRADES, and MART, this repo heavily depends on the original implementation of AugMix, TRADES, and MART.

AugMix experiments:
1. Please follow the instructions in https://github.com/google-research/augmix to install the dependencies and download the datasets
2. Run AugMix baseline:
    cd augmix/augmix-baseline
    python cifar10.py
3. Run AugMix with BulletTrain
    cd augmix/augmix-speedup
    python cifar10.py

TRADES experiments:
1. Please follow the instructions in https://github.com/yaodongyu/TRADES to install the dependencies and download the datasets
2. Run TRADES baseline:
    a. Training
        cd trades
        python train_trades_cifar10.py --model-dir trades_baseline
    b. Evaluation
        python pgd_attack_cifar10.py --model-path
        trades_baseline/model-wideres-epoch76.pt

3. Run TRADES with BulletTrain:
    a. Training
        cd trades
        python train_trades_cifar10_bullet.py --model-dir trades_bullet
    b. Evaluation
        python pgd_attack_cifar10.py --model-path
        trades_bullet/model-wideres-epoch76.pt

MART experiments:
4. Please follow the instructions in https://github.com/YisenWang/MART to install the dependencies and download the datasets
5. Run MART baseline:
    a. Training
        cd mart
        python train_wideresnet.py --model-dir mart_baseline
    b. Evaluation
        python eval_wideresnet.py --model mart_baseline --num-steps 20

6. Run MART with BulletTrain:
    a. Training
        cd mart
        python train_wideresnet_bullet.py --model-dir mart_bullet
    b. Evaluation
        python eval_wideresnet.py --model mart_bullet --num-steps 20