
Supplementary Materials

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1 All relevant materials are provided via the following : [anonymous Google Drive link](#).

2 1 Code

3 The complete source code for reproducing the experiments is available at the following [anonymous](#)
4 [GitHub repository](#) :

5 1.1 Pretrained Models

6 To facilitate the generation of synthetic data, we provide a collection of pretrained models. These
7 models are hosted in the previous metioned [anonymous Google Drive link](#) under the directory
8 `pretrained_models/`, and consist of PyTorch checkpoints trained on the respective original
9 datasets. The directory is organized into subfolders based on the dataset:

- 10 • `cifar100_pretrained_models/`
- 11 • `imagenet-nette_pretrained_models/`
- 12 • `imagenet-woof_pretrained_models/`
- 13 • `tiny_imagenet_pretrained_models/`

14 Each subdirectory contains checkpoints for a variety of commonly used backbone architectures,
15 including:

- 16 • `Densenet121.pth`
- 17 • `MobileNetV2.pth`
- 18 • `ResNet18.pth`
- 19 • `ResNet50.pth`
- 20 • `ShuffleNetV2.pth`

21 Notably, the `tiny_imagenet_pretrained_models/` folder also includes a lightweight model,
22 `ConvNetW128.pth`, and does not include a `ResNet50.pth` checkpoint.

23 Please refer to the provided `readme.md` file for detailed instructions on how to correctly place the
24 pretrained models for successful execution of the codebase.

25 1.2 Initialization Patches

26 In addition to pretrained models, our method utilizes a set of pre-initialized synthetic image patches
27 to facilitate the distillation process. These patches serve as the starting point for optimization and
28 also support residual connections to enhance data fidelity.

29 The patches are located in the `patches/` directory in the previous metioned [anonymous Google](#)
30 [Drive link](#) and are organized by dataset and difficulty level (how easily can pre-trained models

31 recognize them). Within each dataset subdirectory, individual class folders (e.g., 00000, 00001,
32 ..., 00099) contain synthetic patches associated with specific categories. Each folder contains a
33 collection of images (raw . jpg files), which are loaded and optimized during the distillation training
34 loop.

35 Please refer to the `readme.md` for precise instructions on how to integrate these patches with the
36 main training pipeline.

37 2 Distilled Images

38 The folder `distilled_data/` in the previous metioned [anonymous Google Drive link](#) contains
39 synthetic images generated by our proposed methods, **FADRM** (generated by aligning a single
40 model’s property) and **FADRM+** (generated by aligning multiple experts’ properties), under an
41 Images Per Class (IPC) setting of 50. These images are structured by dataset:

- 42 • `cifar100/fadrm_ipc50/, fadrm+_ipc50/`
- 43 • `imagenet-nette/fadrm_ipc50/, fadrm+_ipc50/`
- 44 • `imagenet1k/fadrm_ipc50/, fadrm+_ipc50/`
- 45 • `imagewoof/fadrm_ipc50/, fadrm+_ipc50/`
- 46 • `tiny_imagenet/fadrm_ipc50/, fadrm+_ipc50/`

47 Each subfolder contains per-class distilled images saved in standard image formats. These images are
48 intended for training student models or for visual inspection.