

# hw9

March 29, 2024

```
[5]: from train import train
```

```
[ ]: params = {  
    "batch_size": 128,  
    "num_workers": 4,  
    "lr": 1e-4,  
    "weight_decay": 0,  
    "n_epochs": 5,  
    "wandb_log": True,  
    "save": True,  
    "wandb_key": "9f8480fbfcfd1d06b91b59aa5d23ed5482fdee2e",  
    "name": "basic fine-tuning of resnet101"  
}
```

```
[2]: %load_ext autoreload  
%autoreload 2
```

```
[ ]: train(  
    device="cuda",  
    params=params,  
    path="first_task"  
)
```

```
[ ]: import wandb  
wandb.finish()
```

```
[6]: from train import train_distilled
```

```
[8]: params = {  
    "batch_size": 128,  
    "num_workers": 4,  
    "lr": 1e-3,  
    "weight_decay": 0,  
    "n_epochs": 15,  
    "wandb_log": True,  
    "save": True,  
    "wandb_key": "9f8480fbfcfd1d06b91b59aa5d23ed5482fdee2e",  
}
```

```
    "name": "basic distillation of resnet101, weight=0.25"
}
```

```
[10]: train_distilled(
        device="cuda",
        params=params,
        teacher_path="first_task.pth",
        path="distilled"
    )
```

prerained case

44549160

untrained case

19971112

Files already downloaded and verified

Files already downloaded and verified

wandb: **WARNING** If you're specifying your api key in code, ensure this code is not shared publicly.

wandb: **WARNING** Consider setting the WANDB\_API\_KEY environment variable, or running `wandb login` from the command line.

wandb: Appending key for api.wandb.ai to your netrc file:

/home/jupyter/.netrc

wandb: wandb version 0.16.5 is available! To upgrade, please run:

wandb: \$ pip install wandb --upgrade

wandb: Tracking run with wandb version 0.16.3

wandb: Run data is saved locally in /home/jupyter/work/res

ources/EFDL\_hw9/task1/wandb/run-20240328\_185603-3wbjk3h0

wandb: Run `wandb offline` to turn off syncing.

wandb: Syncing run basic distillation of resnet101,

weight=0.25

wandb: View project at

[https://wandb.ai/kilka74/EFDL\\_hw9](https://wandb.ai/kilka74/EFDL_hw9)

wandb: View run at

[https://wandb.ai/kilka74/EFDL\\_hw9/runs/3wbjk3h0](https://wandb.ai/kilka74/EFDL_hw9/runs/3wbjk3h0)

Loss: 1.6304: 100%| | 391/391 [02:57<00:00, 2.21it/s]

Accuracy: 0.6261000037193298: 100%| | 79/79 [00:06<00:00, 11.59it/s]

Loss: 1.4031: 100%| | 391/391 [03:01<00:00, 2.15it/s]

Accuracy: 0.7224999666213989: 100%| | 79/79 [00:06<00:00, 11.57it/s]

Loss: 1.3993: 100%| | 391/391 [03:01<00:00, 2.15it/s]

Accuracy: 0.7506999969482422: 100%| | 79/79 [00:06<00:00, 11.60it/s]

Loss: 1.3648: 100%| | 391/391 [03:01<00:00, 2.15it/s]

Accuracy: 0.7554000020027161: 100%| | 79/79 [00:06<00:00, 11.54it/s]

Loss: 1.2371: 100%| | 391/391 [03:01<00:00, 2.15it/s]

Accuracy: 0.7281000018119812: 100%| | 79/79 [00:06<00:00, 11.57it/s]

Loss: 1.2472: 100%| | 391/391 [03:01<00:00, 2.15it/s]

```

Accuracy: 0.7863999605178833: 100%|      | 79/79 [00:06<00:00, 11.58it/s]
Loss: 1.1810: 100%|      | 391/391 [03:01<00:00, 2.15it/s]
Accuracy: 0.8011999726295471: 100%|      | 79/79 [00:06<00:00, 11.54it/s]
Loss: 1.1776: 100%|      | 391/391 [03:01<00:00, 2.15it/s]
Accuracy: 0.799299955368042: 100%|      | 79/79 [00:06<00:00, 11.56it/s]
Loss: 1.1208: 100%|      | 391/391 [03:01<00:00, 2.15it/s]
Accuracy: 0.8062999844551086: 100%|      | 79/79 [00:06<00:00, 11.57it/s]
wandb: ERROR Control-C detected -- Run data was not
synced

```

```

[7]: import wandb
      wandb.finish()

```

pretrained = False for truncated version of resnet101 in file train.py

```

[3]: params = {
      "batch_size": 128,
      "num_workers": 4,
      "lr": 1e-3,
      "weight_decay": 0,
      "n_epochs": 10,
      "wandb_log": True,
      "save": True,
      "wandb_key": "9f8480fbfcfd1d06b91b59aa5d23ed5482fdee2e",
      "name": "truncated version of resnet101"
    }

```

```

[4]: train(device="cuda", params=params, path="truncated")

```

untrained case

19971112

Files already downloaded and verified

Files already downloaded and verified

wandb: WARNING If you're specifying your api key in code,  
ensure this code is not shared publicly.

wandb: WARNING Consider setting the WANDB\_API\_KEY  
environment variable, or running `wandb login` from the command line.

wandb: Appending key for api.wandb.ai to your netrc file:  
/home/jupyter/.netrc

wandb: Currently logged in as: **kilka74**. Use `wandb

login --relogin` to force relogin

wandb: wandb version 0.16.5 is available! To upgrade, please run:

wandb: \$ pip install wandb --upgrade

wandb: Tracking run with wandb version 0.16.3

wandb: Run data is saved locally in **/home/jupyter/work/res**  
**ources/EFDL\_hw9/task1/wandb/run-20240328\_152841-1t1yao9h**

```

wandb: Run `wandb offline` to turn off syncing.
wandb: Syncing run truncated version of resnet101
wandb: View project at
https://wandb.ai/kilka74/EFDL\_hw9
wandb: View run at
https://wandb.ai/kilka74/EFDL\_hw9/runs/1t1yao9h
Loss: 0.9377: 100%|          | 391/391 [01:48<00:00, 3.62it/s]
Accuracy: 0.6128000020980835: 100%|          | 79/79 [00:06<00:00, 11.86it/s]
Loss: 0.8721: 100%|          | 391/391 [01:51<00:00, 3.50it/s]
Accuracy: 0.698199987411499: 100%|          | 79/79 [00:06<00:00, 11.63it/s]
Loss: 0.4986: 100%|          | 391/391 [01:52<00:00, 3.46it/s]
Accuracy: 0.7263999581336975: 100%|          | 79/79 [00:06<00:00, 11.62it/s]
Loss: 0.6706: 100%|          | 391/391 [01:52<00:00, 3.46it/s]
Accuracy: 0.7500999569892883: 100%|          | 79/79 [00:06<00:00, 11.60it/s]
Loss: 0.3118: 100%|          | 391/391 [01:52<00:00, 3.46it/s]
Accuracy: 0.7604999542236328: 100%|          | 79/79 [00:06<00:00, 11.59it/s]
Loss: 0.2553: 100%|          | 391/391 [01:52<00:00, 3.46it/s]
Accuracy: 0.7913999557495117: 100%|          | 79/79 [00:06<00:00, 11.55it/s]
Loss: 0.3209: 100%|          | 391/391 [01:52<00:00, 3.46it/s]
Accuracy: 0.8087999820709229: 100%|          | 79/79 [00:06<00:00, 11.58it/s]
Loss: 0.2021: 100%|          | 391/391 [01:52<00:00, 3.46it/s]
Accuracy: 0.8043999671936035: 100%|          | 79/79 [00:06<00:00, 11.63it/s]
Loss: 0.4730: 100%|          | 391/391 [01:52<00:00, 3.46it/s]
Accuracy: 0.7910999655723572: 100%|          | 79/79 [00:06<00:00, 11.59it/s]
Loss: 0.2230: 100%|          | 391/391 [01:52<00:00, 3.46it/s]
Accuracy: 0.8083999752998352: 100%|          | 79/79 [00:06<00:00, 11.64it/s]

finish

wandb: WARNING No program path found, not creating job artifact. See
https://docs.wandb.ai/guides/launch/create-job
wandb:
wandb:
wandb: Run history:
wandb: accuracy
wandb:     loss
wandb:
wandb: Run summary:
wandb: accuracy 0.8084
wandb:     loss 0.22296
wandb:
wandb: View run truncated version of resnet101 at:
https://wandb.ai/kilka74/EFDL\_hw9/runs/1t1yao9h
wandb: Synced 5 W&B file(s), 0 media file(s), 0 artifact file(s)
and 0 other file(s)
wandb: Find logs at:
./wandb/run-20240328\_152841-1t1yao9h/logs

```

```
[3]: params = {
    "batch_size": 128,
    "num_workers": 4,
    "lr": 1e-3,
    "weight_decay": 0,
    "n_epochs": 15,
    "wandb_log": True,
    "save": True,
    "wandb_key": "9f8480fbfcfd1d06b91b59aa5d23ed5482fdee2e",
    "name": "distillation of resnet101 with mse"
}
```

```
[4]: train_distilled(
    device="cuda",
    params=params,
    teacher_path="first_task.pth",
    path="distilled_with_mse",
    add_mse=True
)
```

prerained case

Downloading: "https://download.pytorch.org/models/resnet101-cd907fc2.pth" to  
/tmp/xdg\_cache/torch/hub/checkpoints/resnet101-cd907fc2.pth  
100%| | 171M/171M [00:02<00:00, 68.9MB/s]

44549160

untrained case

19971112

Files already downloaded and verified

Files already downloaded and verified

wandb: **WARNING** If you're specifying your api key in code,  
ensure this code is not shared publicly.

wandb: **WARNING** Consider setting the WANDB\_API\_KEY  
environment variable, or running `wandb login` from the command line.

wandb: Appending key for api.wandb.ai to your netrc file:  
/home/jupyter/.netrc

wandb: Currently logged in as: **kilka74**. Use `wandb

login --relogin` to force relogin

wandb: wandb version 0.16.5 is available! To upgrade, please run:

wandb: \$ pip install wandb --upgrade

wandb: Tracking run with wandb version 0.16.3

wandb: Run data is saved locally in **/home/jupyter/work/res**

**ources/EFDL\_hw9/task1/wandb/run-20240328\_181000-dwrt5ica**

wandb: Run `wandb offline` to turn off syncing.

wandb: Syncing run **distillation of resnet101 with mse**

wandb: View project at

[https://wandb.ai/kilka74/EFDL\\_hw9](https://wandb.ai/kilka74/EFDL_hw9)

wandb: View run at

[https://wandb.ai/kilka74/EFDL\\_hw9/runs/dwrt5ica](https://wandb.ai/kilka74/EFDL_hw9/runs/dwrt5ica)

Loss: 1.6326: 100%| | 391/391 [02:59<00:00, 2.18it/s]  
Accuracy: 0.5641999840736389: 100%| | 79/79 [00:06<00:00, 11.50it/s]  
Loss: 1.4603: 100%| | 391/391 [03:04<00:00, 2.12it/s]  
Accuracy: 0.5593999624252319: 100%| | 79/79 [00:06<00:00, 11.64it/s]  
Loss: 1.3254: 100%| | 391/391 [03:04<00:00, 2.12it/s]  
Accuracy: 0.7339000105857849: 100%| | 79/79 [00:06<00:00, 11.66it/s]  
Loss: 1.2657: 100%| | 391/391 [03:04<00:00, 2.12it/s]  
Accuracy: 0.7591999769210815: 100%| | 79/79 [00:06<00:00, 11.62it/s]  
Loss: 1.2611: 100%| | 391/391 [03:04<00:00, 2.12it/s]  
Accuracy: 0.6917999982833862: 100%| | 79/79 [00:06<00:00, 11.62it/s]  
Loss: 1.1850: 100%| | 391/391 [03:04<00:00, 2.12it/s]  
Accuracy: 0.7935000061988831: 100%| | 79/79 [00:06<00:00, 11.63it/s]  
Loss: 1.1047: 100%| | 391/391 [03:04<00:00, 2.12it/s]  
Accuracy: 0.7911999821662903: 100%| | 79/79 [00:06<00:00, 11.63it/s]  
Loss: 1.1111: 100%| | 391/391 [03:04<00:00, 2.12it/s]  
Accuracy: 0.7913999557495117: 100%| | 79/79 [00:06<00:00, 11.66it/s]  
wandb: WARNING No program path found, not creating job artifact. See  
<https://docs.wandb.ai/guides/launch/create-job>

wandb:

wandb:

wandb: Run history:

wandb: accuracy

wandb: loss

wandb:

wandb: Run summary:

wandb: accuracy 0.7914

wandb: loss 1.11111

wandb:

wandb: View run [distillation of resnet101](#) with mse at:

[https://wandb.ai/kilka74/EFDL\\_hw9/runs/dwrt5ica](https://wandb.ai/kilka74/EFDL_hw9/runs/dwrt5ica)

wandb: Synced 5 W&B file(s), 0 media file(s), 0 artifact file(s)  
and 0 other file(s)

wandb: Find logs at:

[./wandb/run-20240328\\_181000-dwrt5ica/logs](#)

```
[2]: %pip install deepsparse==1.7.0 sparseml==1.7.0 torch==1.12.1
```

Defaulting to user installation because normal site-packages is not writeable

WARNING: Ignoring invalid distribution -vidia-cudnn-cu12

(/home/jupyter/.local/lib/python3.10/site-packages)

Collecting deepsparse==1.7.0

Downloading deepsparse-1.7.0-cp310-cp310-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl.metadata (23 kB)

```

Collecting sparseml==1.7.0
  Downloading sparseml-1.7.0-py3-none-any.whl.metadata (23 kB)
Collecting torch==1.12.1
  Downloading torch-1.12.1-cp310-cp310-manylinux1_x86_64.whl.metadata (22 kB)
Collecting sparsezoo~=1.7.0 (from deepsparse==1.7.0)
  Downloading sparsezoo-1.7.0-py3-none-any.whl.metadata (20 kB)
Requirement already satisfied: numpy>=1.16.3 in
/home/jupyter/.local/lib/python3.10/site-packages (from deepsparse==1.7.0)
(1.26.4)
Collecting onnx<1.15.0,>=1.5.0 (from deepsparse==1.7.0)
  Downloading
onnx-1.14.1-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata
(15 kB)
Requirement already satisfied: pydantic<2.0.0,>=1.8.2 in
/usr/local/lib/python3.10/dist-packages (from deepsparse==1.7.0) (1.10.12)
Requirement already satisfied: requests>=2.0.0 in /kernel/lib/python3.10/site-
packages (from deepsparse==1.7.0) (2.31.0)
Requirement already satisfied: tqdm>=4.0.0 in
/home/jupyter/.local/lib/python3.10/site-packages (from deepsparse==1.7.0)
(4.66.2)
Requirement already satisfied: protobuf>=3.12.2 in
/usr/local/lib/python3.10/dist-packages (from deepsparse==1.7.0) (3.20.3)
Requirement already satisfied: click!=8.0.0,>=7.1.2 in
/usr/local/lib/python3.10/dist-packages (from deepsparse==1.7.0) (8.1.6)
Collecting setuptools<=59.5.0 (from sparseml==1.7.0)
  Downloading setuptools-59.5.0-py3-none-any.whl.metadata (5.0 kB)
Requirement already satisfied: pyyaml>=5.0.0 in
/home/jupyter/.local/lib/python3.10/site-packages (from sparseml==1.7.0) (6.0.1)
Requirement already satisfied: matplotlib>=3.0.0 in
/usr/local/lib/python3.10/dist-packages (from sparseml==1.7.0) (3.7.1)
Collecting merge-args>=0.1.0 (from sparseml==1.7.0)
  Downloading merge_args-0.1.5-py2.py3-none-any.whl.metadata (3.7 kB)
Requirement already satisfied: pandas>=0.25.0 in
/home/jupyter/.local/lib/python3.10/site-packages (from sparseml==1.7.0) (2.2.1)
Requirement already satisfied: packaging>=20.0 in /kernel/lib/python3.10/site-
packages (from sparseml==1.7.0) (23.2)
Requirement already satisfied: psutil>=5.0.0 in /kernel/lib/python3.10/site-
packages (from sparseml==1.7.0) (5.7.3)
Requirement already satisfied: scikit-learn>=0.24.2 in
/usr/local/lib/python3.10/dist-packages (from sparseml==1.7.0) (1.2.2)
Collecting toposort>=1.0 (from sparseml==1.7.0)
  Downloading toposort-1.10-py3-none-any.whl.metadata (4.1 kB)
Collecting GPUUtil>=1.4.0 (from sparseml==1.7.0)
  Downloading GPUUtil-1.4.0.tar.gz (5.5 kB)
  Preparing metadata (setup.py) ... done
Requirement already satisfied: scipy>=1.0.0 in
/usr/local/lib/python3.10/dist-packages (from sparseml==1.7.0) (1.10.1)
Requirement already satisfied: typing-extensions in /kernel/lib/python3.10/site-

```

packages (from torch==1.12.1) (4.10.0)  
 Requirement already satisfied: contourpy>=1.0.1 in  
 /usr/local/lib/python3.10/dist-packages (from  
 matplotlib>=3.0.0->sparseml==1.7.0) (1.1.0)  
 Requirement already satisfied: cycycler>=0.10 in /usr/local/lib/python3.10/dist-  
 packages (from matplotlib>=3.0.0->sparseml==1.7.0) (0.11.0)  
 Requirement already satisfied: fonttools>=4.22.0 in  
 /usr/local/lib/python3.10/dist-packages (from  
 matplotlib>=3.0.0->sparseml==1.7.0) (4.41.1)  
 Requirement already satisfied: kiwisolver>=1.0.1 in  
 /usr/local/lib/python3.10/dist-packages (from  
 matplotlib>=3.0.0->sparseml==1.7.0) (1.4.4)  
 Requirement already satisfied: pillow>=6.2.0 in /usr/local/lib/python3.10/dist-  
 packages (from matplotlib>=3.0.0->sparseml==1.7.0) (9.4.0)  
 Requirement already satisfied: pyparsing>=2.3.1 in /kernel/lib/python3.10/site-  
 packages (from matplotlib>=3.0.0->sparseml==1.7.0) (2.4.7)  
 Requirement already satisfied: python-dateutil>=2.7 in  
 /kernel/lib/python3.10/site-packages (from matplotlib>=3.0.0->sparseml==1.7.0)  
 (2.9.0.post0)  
 Requirement already satisfied: pytz>=2020.1 in  
 /home/jupyter/.local/lib/python3.10/site-packages (from  
 pandas>=0.25.0->sparseml==1.7.0) (2024.1)  
 Requirement already satisfied: tzdata>=2022.7 in  
 /home/jupyter/.local/lib/python3.10/site-packages (from  
 pandas>=0.25.0->sparseml==1.7.0) (2024.1)  
 Requirement already satisfied: charset-normalizer<4,>=2 in  
 /kernel/lib/python3.10/site-packages (from requests>=2.0.0->deepparse==1.7.0)  
 (3.3.2)  
 Requirement already satisfied: idna<4,>=2.5 in /kernel/lib/python3.10/site-  
 packages (from requests>=2.0.0->deepparse==1.7.0) (3.6)  
 Requirement already satisfied: urllib3<3,>=1.21.1 in  
 /kernel/lib/python3.10/site-packages (from requests>=2.0.0->deepparse==1.7.0)  
 (1.25.11)  
 Requirement already satisfied: certifi>=2017.4.17 in  
 /kernel/lib/python3.10/site-packages (from requests>=2.0.0->deepparse==1.7.0)  
 (2024.2.2)  
 Requirement already satisfied: joblib>=1.1.1 in /usr/local/lib/python3.10/dist-  
 packages (from scikit-learn>=0.24.2->sparseml==1.7.0) (1.3.1)  
 Requirement already satisfied: threadpoolctl>=2.0.0 in  
 /usr/local/lib/python3.10/dist-packages (from scikit-  
 learn>=0.24.2->sparseml==1.7.0) (3.2.0)  
 Collecting py-machineid>=0.3.0 (from sparsezoo~=1.7.0->deepparse==1.7.0)  
 Downloading py\_machineid-0.5.1-py3-none-any.whl.metadata (2.3 kB)  
 Collecting geocoder>=1.38.0 (from sparsezoo~=1.7.0->deepparse==1.7.0)  
 Downloading geocoder-1.38.1-py2.py3-none-any.whl.metadata (14 kB)  
 Collecting onnxruntime>=1.0.0 (from sparsezoo~=1.7.0->deepparse==1.7.0)  
 Downloading onnxruntime-1.17.1-cp310-cp310-manylinux\_2\_27\_x86\_64.manylinux\_2\_2  
 8\_x86\_64.whl.metadata (4.3 kB)



Requirement already satisfied: future in /usr/local/lib/python3.10/dist-packages (from geocoder>=1.38.0->sparsezoo~=1.7.0->deepparse==1.7.0) (0.18.3)

Collecting ratelim (from geocoder>=1.38.0->sparsezoo~=1.7.0->deepparse==1.7.0)

Downloading ratelim-0.1.6-py2.py3-none-any.whl.metadata (1.4 kB)

Requirement already satisfied: six in /kernel/lib/python3.10/site-packages (from geocoder>=1.38.0->sparsezoo~=1.7.0->deepparse==1.7.0) (1.16.0)

Collecting coloredlogs (from onnxruntime>=1.0.0->sparsezoo~=1.7.0->deepparse==1.7.0)

Downloading coloredlogs-15.0.1-py2.py3-none-any.whl.metadata (12 kB)

Requirement already satisfied: flatbuffers in /usr/local/lib/python3.10/dist-packages (from onnxruntime>=1.0.0->sparsezoo~=1.7.0->deepparse==1.7.0) (23.5.26)

Requirement already satisfied: sympy in /home/jupyter/.local/lib/python3.10/site-packages (from onnxruntime>=1.0.0->sparsezoo~=1.7.0->deepparse==1.7.0) (1.12)

Collecting humanfriendly>=9.1 (from coloredlogs->onnxruntime>=1.0.0->sparsezoo~=1.7.0->deepparse==1.7.0)

Downloading humanfriendly-10.0-py2.py3-none-any.whl.metadata (9.2 kB)

Requirement already satisfied: decorator in /kernel/lib/python3.10/site-packages (from ratelim->geocoder>=1.38.0->sparsezoo~=1.7.0->deepparse==1.7.0) (5.1.1)

Requirement already satisfied: mpmath>=0.19 in /home/jupyter/.local/lib/python3.10/site-packages (from sympy->onnxruntime>=1.0.0->sparsezoo~=1.7.0->deepparse==1.7.0) (1.3.0)

Downloading  
deepparse-1.7.0-cp310-cp310-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (47.1 MB)

47.1/47.1 MB

71.8 MB/s eta 0:00:00:0100:01

Downloading sparseml-1.7.0-py3-none-any.whl (1.3 MB)

1.3/1.3 MB

76.9 MB/s eta 0:00:00

Downloading torch-1.12.1-cp310-cp310-manylinux1\_x86\_64.whl (776.3 MB)

776.3/776.3 MB

438.7 kB/s eta 0:00:0000:0100:01

Downloading merge\_args-0.1.5-py2.py3-none-any.whl (6.0 kB)

Downloading  
onnx-1.14.1-cp310-cp310-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (14.6 MB)

14.6/14.6 MB

3.3 MB/s eta 0:00:000:00:0100:01

Downloading setuptools-59.5.0-py3-none-any.whl (952 kB)

952.4/952.4 kB

400.7 kB/s eta 0:00:0000:01

Downloading sparsezoo-1.7.0-py3-none-any.whl (177 kB)

177.6/177.6 kB

15.5 MB/s eta 0:00:00

Downloading toposort-1.10-py3-none-any.whl (8.5 kB)

Downloading geocoder-1.38.1-py2.py3-none-any.whl (98 kB)

98.6/98.6 kB

```

8.1 MB/s eta 0:00:00
Downloading
onnxruntime-1.17.1-cp310-cp310-manylinux_2_27_x86_64.manylinux_2_28_x86_64.whl
(6.8 MB)
6.8/6.8 MB
96.9 MB/s eta 0:00:00:0100:01
Downloading py_machineid-0.5.1-py3-none-any.whl (4.7 kB)
Downloading coloredlogs-15.0.1-py2.py3-none-any.whl (46 kB)
46.0/46.0 kB
6.5 MB/s eta 0:00:00
Downloading ratelim-0.1.6-py2.py3-none-any.whl (4.0 kB)
Downloading humanfriendly-10.0-py2.py3-none-any.whl (86 kB)
86.8/86.8 kB
10.3 MB/s eta 0:00:00
Building wheels for collected packages: GPUUtil
  Building wheel for GPUUtil (setup.py) ... done
  Created wheel for GPUUtil: filename=GPUUtil-1.4.0-py3-none-any.whl
size=7394
sha256=1e746e3004635a83efff32945c19efdd8007ca985f1e2cb7d213176813e5d3f0
  Stored in directory: /tmp/xdg_cache/pip/wheels/a9/8a/bd/81082387151853ab8b6b3e
f33426e98f5cbfebc3c397a9d4d0
Successfully built GPUUtil
WARNING: Ignoring invalid distribution -vidia-cudnn-cu12
(/home/jupyter/.local/lib/python3.10/site-packages)

Installing collected packages: toposort, py-machineid, merge-args, GPUUtil,
torch, setuptools, ratelim, onnx, humanfriendly, geocoder, coloredlogs,
onnxruntime, sparsezoo, sparseml, deepsparse
Attempting uninstall: torch
  Found existing installation: torch 2.1.2
  Uninstalling torch-2.1.2:
    Successfully uninstalled torch-2.1.2

```

WARNING: The scripts convert-caffe2-to-onnx, convert-onnx-to-caffe2 and torchrun are installed in '/home/jupyter/.local/bin' which is not on PATH.

Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.

WARNING: The scripts backend-test-tools, check-model and check-node are installed in '/home/jupyter/.local/bin' which is not on PATH.

Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.

WARNING: The script humanfriendly is installed in '/home/jupyter/.local/bin' which is not on PATH.

Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.

WARNING: The script geocode is installed in '/home/jupyter/.local/bin' which is not on PATH.

Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.

WARNING: The script coloredlogs is installed in '/home/jupyter/.local/bin' which is not on PATH.

Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.

WARNING: The script onnxruntime\_test is installed in '/home/jupyter/.local/bin' which is not on PATH.

Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.

WARNING: The scripts sparsezoo, sparsezoo.analyze, sparsezoo.deployment\_package and sparsezoo.download are installed in '/home/jupyter/.local/bin' which is not on PATH.

Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.

WARNING: The scripts sparseml.evaluate, sparseml.export, sparseml.framework, sparseml.image\_classification.export\_onnx, sparseml.image\_classification.train, sparseml.openpifpaf.export\_onnx, sparseml.openpifpaf.train, sparseml.pytorch.image\_classification.export\_onnx, sparseml.pytorch.image\_classification.lr<sup>11</sup>\_analysis,

sparseml.pytorch.image\_classification.pr\_sensitivity,

sparseml.pytorch.image\_classification.train, sparseml.recipe\_template

geocoder-1.38.1 humanfriendly-10.0 merge-args-0.1.5 onnx-1.14.1  
onnxruntime-1.17.1 py-machineid-0.5.1 ratelim-0.1.6 setuptools-59.5.0  
sparseml-1.7.0 sparsezoo-1.7.0 toposort-1.10 torch-1.12.1

[notice] A new release of pip is

available: 23.0.1 -> 24.0

[notice] To update, run:

python3 -m pip install --upgrade pip

```
[1]: !python3 ../example_train_sparse_and_quantize.py
```

untrained case

19971112

/usr/local/lib/python3.10/dist-packages/torchvision/io/image.py:13: UserWarning:  
Failed to load image Python extension: '/usr/local/lib/python3.10/dist-  
packages/torchvision/image.so: undefined symbol:

\_ZN3c104impl8GPUTrace13gpuTraceStateE'If you don't plan on using image  
functionality from `torchvision.io`, you can ignore this warning. Otherwise,  
there might be something wrong with your environment. Did you have `libjpeg` or  
`libpng` installed before building `torchvision` from source?

warn(

/home/jupyter/.local/lib/python3.10/site-packages/transformers/utils/hub.py:124:  
FutureWarning: Using `TRANSFORMERS\_CACHE` is deprecated and will be removed in  
v5 of Transformers. Use `HF\_HOME` instead.

warnings.warn(

Traceback (most recent call last):

File "/home/jupyter/work/resources/EFDL\_hw9/task1/./example\_train\_sparse\_and\_  
quantize.py", line 105, in <module>

main()

File "/home/jupyter/work/resources/EFDL\_hw9/task1/./example\_train\_sparse\_and\_  
quantize.py", line 36, in main

model = torch.fx.symbolic\_trace(model)

File "/home/jupyter/.local/lib/python3.10/site-  
packages/torch/fx/\_symbolic\_trace.py", line 878, in symbolic\_trace

graph = tracer.trace(root, concrete\_args)

File "/home/jupyter/.local/lib/python3.10/site-  
packages/torch/fx/\_symbolic\_trace.py", line 587, in trace

self.create\_node('output', 'output', (self.create\_arg(fn(\*args)),), {},

File "/home/jupyter/work/resources/EFDL\_hw9/task1/model.py", line 43, in  
forward

if return\_temporary:

File "/home/jupyter/.local/lib/python3.10/site-packages/torch/fx/proxy.py",  
line 284, in \_\_bool\_\_

return self.tracer.to\_bool(self)

File "/home/jupyter/.local/lib/python3.10/site-packages/torch/fx/proxy.py",  
line 160, in to\_bool

raise TraceError('symbolically traced variables cannot be used as inputs to

control flow')

torch.fx.proxy.TraceError: symbolically traced variables cannot be used as inputs to control flow

```
-----  
Exception                                Traceback (most recent call last)  
<ipython-input-1-b4d7d9167538> in <module>  
----> 1 get_ipython().system('python3 ../example_train_sparse_and_quantize.py')  
      2 #  
  
/kernel/lib/python3.10/site-packages/ml_kernel/kernel.py in <lambda>(code)  
    274  
    275         self._script_executor = ScriptExecutor(get_output_error_code)  
--> 276         self.shell.system = lambda code: self._script_executor.  
      ↪execute("bash", code)  
    277  
    278     def _init_message_handlers(self):  
  
/kernel/lib/python3.10/site-packages/ml_kernel/script_executor.py in  
      ↪execute(self, lang, code)  
     41         return_code = self.do_execute(code)  
     42         if return_code != 0:  
---> 43             raise Exception('Process exited with code %d' % return_code)  
  
Exception: Process exited with code 1
```

[ ]: