

```
1 D:\Py\Anaconda\envs\tdds\python.exe E:/tqq/
   Dataset-Pruning-TDDS/evaluate_calilation.py
2 -----
3 Evaluating on cifar10...
4 save path : ./cifar10-checkpoint/pruned-
   dataset/pr_0.3/seed77
5 {'data_path': './data', 'dataset': 'cifar10',
   'batch_size': 128, 'workers': 2, 'pin_memo':
   'False', 'random_seed': 12345, 'arch': 'resnet18',
   'checkpoint_path': './cifar10-
   checkpoint/pruned-dataset/pr_0.3/seed77/
   model_best.pth.tar', 'subset_rate': 0.3,
   'n_bins': 10, 'ngpu': 1, 'use_cuda': True,
   'save_path': './cifar10-checkpoint/pruned-
   dataset/pr_0.3/seed77'}
6 python version : 3.9.19 (main, May 6 2024,
   20:12:36) [MSC v.1916 64 bit (AMD64)]
7 torch version : 2.2.1
8 cudnn version : 8700
9 Dataset: cifar10
10 Data Path: ./data
11 Random seed (for calibration & testing set
   split): 12345.
12 Network: resnet18
13 Batchsize: 128
14 N_bins (the number of bins to calculate ECE
   ): 10.
15 Evaluating run with seed 77:: 0
%|           | 0/5 [00:00<?, ?it/s]Files
   already downloaded and verified
16 Files already downloaded and verified
17 Files already downloaded and verified
18 E:\tqq\Dataset-Pruning-TDDS\
   evaluate_calilation.py:185: UserWarning: To
   copy construct from a tensor, it is
   recommended to use sourceTensor.clone().
   detach() or sourceTensor.clone().detach().
   requires_grad_(True), rather than torch.
```

```
18 tensor(sourceTensor).
19 scaled_confidences = torch.tensor(
    bin_accuracies[conf_bin_idx], device=device)
20 **Test** Prec@1 95.367 Prec@5 99.867 Error@
    1 4.633; ECE 0.021
21 Evaluating run with seed 77:: 20
%|██████████| 1/5 [00:22<01:30, 22.73s/it]**
Post-hoc Temperature Scaling (grid search
range temp 0-500)** ECE after TS: 0.014; Best
temp[] tensor([1.2800], device='cuda:0').
22 **Post-hoc Histogram Binning (grid search
range n_bins 10-20)** ECE after HB: 0.040;
Best n_bins[] 15.
23 save_path : ./cifar10-checkpoint/pruned-
dataset/pr_0.5/seed77
24 {'data_path': './data', 'dataset': 'cifar10',
    'batch_size': 128, 'workers': 2, 'pin_memo':
    False, 'random_seed': 12345, 'arch': 'resnet18',
    'checkpoint_path': './cifar10-
checkpoint/pruned-dataset/pr_0.5/seed77/
model_best.pth.tar', 'subset_rate': 0.5,
    'n_bins': 10, 'ngpu': 1, 'use_cuda': True,
    'save_path': './cifar10-checkpoint/pruned-
dataset/pr_0.5/seed77', 'num_classes': 10,
    'num_samples': 35000.0}
25 python version : 3.9.19 (main, May 6 2024,
    20:12:36) [MSC v.1916 64 bit (AMD64)]
26 torch version : 2.2.1
27 cudnn version : 8700
28 Dataset: cifar10
29 Data Path: ./data
30 Random seed (for calibration & testing set
    split): 12345.
31 Network: resnet18
32 Batchsize: 128
33 N_bins (the number of bins to calculate ECE
    ): 10.
34 Loading CIFAR10... Files already downloaded
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34 and verified
35 Files already downloaded and verified
36 Files already downloaded and verified
37 **Test** Prec@1 95.078 Prec@5 99.811 Error@
  1 4.922; ECE 0.024
38 **Post-hoc Temperature Scaling (grid search
  range temp 0-500)** ECE after TS: 0.009; Best
  temp[] tensor([1.2400], device='cuda:0').
39 **Post-hoc Histogram Binning (grid search
  range n_bins 10-20)** ECE after HB: 0.027;
  Best n_bins[] 11.
40 save path : ./cifar10-checkpoint/pruned-
  dataset/pr_0.7/seed77
41 {'data_path': './data', 'dataset': 'cifar10',
  'batch_size': 128, 'workers': 2, 'pin_memo':
  False, 'random_seed': 12345, 'arch': 'resnet18',
  'checkpoint_path': './cifar10-
  checkpoint/pruned-dataset/pr_0.7/seed77/
  model_best.pth.tar', 'subset_rate': 0.7,
  'n_bins': 10, 'ngpu': 1, 'use_cuda': True,
  'save_path': './cifar10-checkpoint/pruned-
  dataset/pr_0.7/seed77', 'num_classes': 10,
  'num_samples': 25000.0}
42 python version : 3.9.19 (main, May 6 2024,
  20:12:36) [MSC v.1916 64 bit (AMD64)]
43 torch version : 2.2.1
44 cudnn version : 8700
45 Dataset: cifar10
46 Data Path: ./data
47 Random seed (for calibration & testing set
  split): 12345.
48 Network: resnet18
49 Batchsize: 128
50 N_bins (the number of bins to calculate ECE
  ): 10.
51 Evaluating run with seed 77:: 40
%| █ | 2/5 [00:43<01:04, 21.36s/it]
Files already downloaded and verified
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52 Files already downloaded and verified
53 Files already downloaded and verified
54 **Test** Prec@1 93.122 Prec@5 99.656 Error@
   1 6.878; ECE 0.033
55 **Post-hoc Temperature Scaling (grid search
   range temp 0-500)** ECE after TS: 0.011; Best
   temp[] tensor([1.2700], device='cuda:0').
56 **Post-hoc Histogram Binning (grid search
   range n_bins 10-20)** ECE after HB: 0.036;
   Best n_bins[] 12.
57 save path : ./cifar10-checkpoint/pruned-
   dataset/pr_0.8/seed77
58 {'data_path': './data', 'dataset': 'cifar10',
   'batch_size': 128, 'workers': 2, 'pin_memo':
   False, 'random_seed': 12345, 'arch': 'resnet18',
   'checkpoint_path': './cifar10-
   checkpoint/pruned-dataset/pr_0.8/seed77/
   model_best.pth.tar', 'subset_rate': 0.8,
   'n_bins': 10, 'ngpu': 1, 'use_cuda': True,
   'save_path': './cifar10-checkpoint/pruned-
   dataset/pr_0.8/seed77', 'num_classes': 10,
   'num_samples': 15000.000000000002}
59 python version : 3.9.19 (main, May 6 2024,
   20:12:36) [MSC v.1916 64 bit (AMD64)]
60 torch version : 2.2.1
61 cudnn version : 8700
62 Dataset: cifar10
63 Data Path: ./data
64 Random seed (for calibration & testing set
   split): 12345.
65 Network: resnet18
66 Batchsize: 128
67 N_bins (the number of bins to calculate ECE
   ): 10.
68 Evaluating run with seed 77:: 60
%| █ | 3/5 [01:02<00:41, 20.63s/it]
   Files already downloaded and verified
69 Files already downloaded and verified
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70 Files already downloaded and verified
71 **Test** Prec@1 90.778 Prec@5 99.444 Error
    @1 9.222; ECE 0.045
72 **Post-hoc Temperature Scaling (grid search
    range temp 0-500)** ECE after TS: 0.011;
    Best temp[] tensor([1.3600], device='cuda:0
        ').
73 **Post-hoc Histogram Binning (grid search
    range n_bins 10-20)** ECE after HB: 0.042;
    Best n_bins[] 13.
74 save path : ./cifar10-checkpoint/pruned-
    dataset/pr_0.9/seed77
75 {'data_path': './data', 'dataset': 'cifar10
        ', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
        cifar10-checkpoint/pruned-dataset/pr_0.9/
        seed77/model_best.pth.tar', 'subset_rate': 0
        .9, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
        pruned-dataset/pr_0.9/seed77', 'num_classes': 10, 'num_samples': 9999.99999999998}
76 python version : 3.9.19 (main, May 6 2024,
    20:12:36) [MSC v.1916 64 bit (AMD64)]
77 torch version : 2.2.1
78 cudnn version : 8700
79 Dataset: cifar10
80 Data Path: ./data
81 Random seed (for calibration & testing set
    split): 12345.
82 Network: resnet18
83 Batchsize: 128
84 N_bins (the number of bins to calculate ECE
    ): 10.
85 Evaluating run with seed 77:: 80
%|██████████| 4/5 [01:22<00:20, 20.30s/it]
    Files already downloaded and verified
86 Files already downloaded and verified
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87 Files already downloaded and verified
88 **Test** Prec@1 85.167 Prec@5 98.889 Error
@1 14.833; ECE 0.075
89 **Post-hoc Temperature Scaling (grid search
range temp 0-500)** ECE after TS: 0.008;
Best temp[] tensor([1.6000], device='cuda:0
').
90 **Post-hoc Histogram Binning (grid search
range n_bins 10-20)** ECE after HB: 0.041;
Best n_bins[] 14.
91 save_path : ./cifar10-checkpoint/pruned-
dataset/pr_0.3/seed374
92 {'data_path': './data', 'dataset': 'cifar10
', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
cifar10-checkpoint/pruned-dataset/pr_0.3/
seed374/model_best.pth.tar', 'subset_rate': 0.3, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
pruned-dataset/pr_0.3/seed374', 'num_classes': 10, 'num_samples': 4999.99999999999}
93 python version : 3.9.19 (main, May 6 2024,
20:12:36) [MSC v.1916 64 bit (AMD64)]
94 torch version : 2.2.1
95 cudnn version : 8700
96 Dataset: cifar10
97 Data Path: ./data
98 Random seed (for calibration & testing set
split): 12345.
99 Network: resnet18
100 Batchsize: 128
101 N_bins (the number of bins to calculate ECE
): 10.
102 Evaluating run with seed 77:: 100
%|██████████| 5/5 [01:42<00:00, 20.48s/it]
103 Evaluating run with seed 374:: 0
%|          | 0/5 [00:00<?, ?it/s]Files
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103 already downloaded and verified
104 Files already downloaded and verified
105 Files already downloaded and verified
106 **Test** Prec@1 95.622 Prec@5 99.878 Error
    @1 4.378; ECE 0.021
107 **Post-hoc Temperature Scaling (grid search
    range temp 0-500)** ECE after TS: 0.007;
    Best temp[] tensor([1.2200], device='cuda:0
    ').
108 **Post-hoc Histogram Binning (grid search
    range n_bins 10-20)** ECE after HB: 0.029;
    Best n_bins[] 11.
109 save path : ./cifar10-checkpoint/pruned-
    dataset/pr_0.5/seed374
110 {'data_path': './data', 'dataset': 'cifar10
    ', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
    cifar10-checkpoint/pruned-dataset/pr_0.5/
    seed374/model_best.pth.tar', 'subset_rate': 0.5, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
    pruned-dataset/pr_0.5/seed374', 'num_classes': 10, 'num_samples': 35000.0}
111 python version : 3.9.19 (main, May 6 2024,
    20:12:36) [MSC v.1916 64 bit (AMD64)]
112 torch version : 2.2.1
113 cudnn version : 8700
114 Dataset: cifar10
115 Data Path: ./data
116 Random seed (for calibration & testing set
    split): 12345.
117 Network: resnet18
118 Batchsize: 128
119 N_bins (the number of bins to calculate ECE
    ): 10.
120 Evaluating run with seed 374:: 20
%|██████████| 1/5 [00:20<01:23, 20.98s/it]
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120 Files already downloaded and verified
121 Files already downloaded and verified
122 Files already downloaded and verified
123 **Test** Prec@1 94.833 Prec@5 99.922 Error
    @1 5.167; ECE 0.024
124 **Post-hoc Temperature Scaling (grid search
    range temp 0-500)** ECE after TS: 0.007;
    Best temp[] tensor([1.2000], device='cuda:0
    ').
125 **Post-hoc Histogram Binning (grid search
    range n_bins 10-20)** ECE after HB: 0.028;
    Best n_bins[] 13.
126 save path : ./cifar10-checkpoint/pruned-
    dataset/pr_0.7/seed374
127 {'data_path': './data', 'dataset': 'cifar10
    ', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
    cifar10-checkpoint/pruned-dataset/pr_0.7/
    seed374/model_best.pth.tar', 'subset_rate': 0.7, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
    pruned-dataset/pr_0.7/seed374', 'num_classes': 10, 'num_samples': 25000.0}
128 python version : 3.9.19 (main, May 6 2024,
    20:12:36) [MSC v.1916 64 bit (AMD64)]
129 torch version : 2.2.1
130 Evaluating run with seed 374:: 40
    %I███████ | 2/5 [00:41<01:01, 20.45s/it]
    cudnn version : 8700
131 Dataset: cifar10
132 Data Path: ./data
133 Random seed (for calibration & testing set
    split): 12345.
134 Network: resnet18
135 Batchsize: 128
136 N_bins (the number of bins to calculate ECE
    ): 10.
```

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137 Loading CIFAR10... Files already downloaded  
    and verified  
138 Files already downloaded and verified  
139 Files already downloaded and verified  
140 **Test** Prec@1 92.789 Prec@5 99.722 Error  
    @1 7.211; ECE 0.035  
141 **Post-hoc Temperature Scaling (grid search  
    range temp 0-500)** ECE after TS: 0.010;  
    Best temp[] tensor([1.3200], device='cuda:0'  
').  
142 **Post-hoc Histogram Binning (grid search  
    range n_bins 10-20)** ECE after HB: 0.037;  
    Best n_bins[] 12.  
143 save_path : ./cifar10-checkpoint/pruned-  
    dataset/pr_0.8/seed374  
144 {'data_path': './data', 'dataset': 'cifar10'  
, 'batch_size': 128, 'workers': 2, '  
pin_memo': False, 'random_seed': 12345, '  
arch': 'resnet18', 'checkpoint_path': './  
cifar10-checkpoint/pruned-dataset/pr_0.8/  
seed374/model_best.pth.tar', 'subset_rate':  
0.8, 'n_bins': 10, 'ngpu': 1, 'use_cuda':  
True, 'save_path': './cifar10-checkpoint/  
pruned-dataset/pr_0.8/seed374', 'num_classes':  
10, 'num_samples': 15000.000000000002}  
145 python version : 3.9.19 (main, May 6 2024,  
20:12:36) [MSC v.1916 64 bit (AMD64)]  
146 torch version : 2.2.1  
147 cudnn version : 8700  
148 Dataset: cifar10  
149 Data Path: ./data  
150 Random seed (for calibration & testing set  
split): 12345.  
151 Network: resnet18  
152 Batchsize: 128  
153 N_bins (the number of bins to calculate ECE  
): 10.  
154 Evaluating run with seed 374:: 60
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154 %| █ | 3/5 [01:01<00:40, 20.22s/it]
    Files already downloaded and verified
155 Files already downloaded and verified
156 Files already downloaded and verified
157 Evaluating run with seed 374:: 80
    %| █ | 4/5 [01:20<00:19, 19.98s/it]
    ] **Test** Prec@1 90.956 Prec@5 99.467
    Error@1 9.044; ECE 0.043
158 **Post-hoc Temperature Scaling (grid search
    range temp 0-500)** ECE after TS: 0.009;
    Best temp[] tensor([1.3500], device='cuda:0
        ').
159 **Post-hoc Histogram Binning (grid search
    range n_bins 10-20)** ECE after HB: 0.027;
    Best n_bins[] 18.
160 save path : ./cifar10-checkpoint/pruned-
    dataset/pr_0.9/seed374
161 {'data_path': './data', 'dataset': 'cifar10
    ', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
    cifar10-checkpoint/pruned-dataset/pr_0.9/
    seed374/model_best.pth.tar', 'subset_rate': 0.9, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
    pruned-dataset/pr_0.9/seed374', 'num_classes': 10, 'num_samples': 9999.99999999998}
162 python version : 3.9.19 (main, May 6 2024,
    20:12:36) [MSC v.1916 64 bit (AMD64)]
163 torch version : 2.2.1
164 cudnn version : 8700
165 Dataset: cifar10
166 Data Path: ./data
167 Random seed (for calibration & testing set
    split): 12345.
168 Network: resnet18
169 Batchsize: 128
170 N_bins (the number of bins to calculate ECE
```

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170 ): 10.  
171 Loading CIFAR10... Files already downloaded  
and verified  
172 Files already downloaded and verified  
173 Files already downloaded and verified  
174 **Test** Prec@1 85.211 Prec@5 98.867 Error  
@1 14.789; ECE 0.075  
175 **Post-hoc Temperature Scaling (grid search  
range temp 0-500)** ECE after TS: 0.014;  
Best temp tensor([1.6300], device='cuda:0176 **Post-hoc Histogram Binning (grid search  
range n_bins 10-20)** ECE after HB: 0.062;  
Best n_bins 14.  
177 save path : ./cifar10-checkpoint/pruned-  
dataset/pr_0.3/seed565  
178 {'data_path': './data', 'dataset': 'cifar10  
, 'batch_size': 128, 'workers': 2, '  
pin_memo': False, 'random_seed': 12345, '  
arch': 'resnet18', 'checkpoint_path': './  
cifar10-checkpoint/pruned-dataset/pr_0.3/  
seed565/model_best.pth.tar', 'subset_rate':  
0.3, 'n_bins': 10, 'ngpu': 1, 'use_cuda':  
True, 'save_path': './cifar10-checkpoint/  
pruned-dataset/pr_0.3/seed565', 'num_classes':  
10, 'num_samples': 4999.99999999999}  
179 python version : 3.9.19 (main, May 6 2024,  
20:12:36) [MSC v.1916 64 bit (AMD64)]  
180 torch version : 2.2.1  
181 cudnn version : 8700  
182 Dataset: cifar10  
183 Data Path: ./data  
184 Random seed (for calibration & testing set  
split): 12345.  
185 Network: resnet18  
186 Batchsize: 128  
187 N_bins (the number of bins to calculate ECE  
): 10.
```

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188 Evaluating run with seed 374:: 100
    %|██████| 5/5 [01:40<00:00, 20.03s/it]
189 Evaluating run with seed 565::  0
    %|          | 0/5 [00:00<?, ?it/s]Files
        already downloaded and verified
190 Files already downloaded and verified
191 Files already downloaded and verified
192 **Test** Prec@1 95.489 Prec@5 99.856 Error
    @1 4.511; ECE 0.022
193 **Post-hoc Temperature Scaling (grid search
    range temp 0-500)** ECE after TS: 0.008;
    Best temp[] tensor([1.2300], device='cuda:0
    ').
194 **Post-hoc Histogram Binning (grid search
    range n_bins 10-20)** ECE after HB: 0.040;
    Best n_bins[] 13.
195 save path : ./cifar10-checkpoint/pruned-
    dataset/pr_0.5/seed565
196 {'data_path': './data', 'dataset': 'cifar10
    ', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
    cifar10-checkpoint/pruned-dataset/pr_0.5/
    seed565/model_best.pth.tar', 'subset_rate': 0.5, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
    pruned-dataset/pr_0.5/seed565', 'num_classes': 10, 'num_samples': 35000.0}
197 python version : 3.9.19 (main, May 6 2024,
    20:12:36) [MSC v.1916 64 bit (AMD64)]
198 torch version : 2.2.1
199 cudnn version : 8700
200 Dataset: cifar10
201 Data Path: ./data
202 Random seed (for calibration & testing set
    split): 12345.
203 Network: resnet18
204 Batchsize: 128
```

```
205 N_bins (the number of bins to calculate ECE
   ): 10.
206 Evaluating run with seed 565:: 20
%|██████████| 1/5 [00:21<01:24, 21.20s/it]
  Files already downloaded and verified
207 Files already downloaded and verified
208 Files already downloaded and verified
209 **Test** Prec@1 95.078 Prec@5 99.833 Error
   @1 4.922; ECE 0.022
210 **Post-hoc Temperature Scaling (grid search
   range temp 0-500)** ECE after TS: 0.010;
   Best temp tensor([1.2700], device='cuda:0
   ').
211 **Post-hoc Histogram Binning (grid search
   range n_bins 10-20)** ECE after HB: 0.037;
   Best n_bins 17.
212 save path : ./cifar10-checkpoint/pruned-
   dataset/pr_0.7/seed565
213 {'data_path': './data', 'dataset': 'cifar10
   ', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
   cifar10-checkpoint/pruned-dataset/pr_0.7/
   seed565/model_best.pth.tar', 'subset_rate': 0.7, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
   pruned-dataset/pr_0.7/seed565', 'num_classes': 10, 'num_samples': 25000.0}
214 python version : 3.9.19 (main, May 6 2024,
   20:12:36) [MSC v.1916 64 bit (AMD64)]
215 torch version : 2.2.1
216 cudnn version : 8700
217 Dataset: cifar10
218 Data Path: ./data
219 Random seed (for calibration & testing set
   split): 12345.
220 Network: resnet18
221 Batchsize: 128
```

```
222 N_bins (the number of bins to calculate ECE
   ): 10.
223 Evaluating run with seed 565:: 40
%|██████| 2/5 [00:41<01:02, 20.69s/it]
  Files already downloaded and verified
224 Files already downloaded and verified
225 Files already downloaded and verified
226 **Test** Prec@1 92.567 Prec@5 99.778 Error
   @1 7.433; ECE 0.038
227 **Post-hoc Temperature Scaling (grid search
   range temp 0-500)** ECE after TS: 0.013;
   Best temp tensor([1.2800], device='cuda:0
   ').
228 **Post-hoc Histogram Binning (grid search
   range n_bins 10-20)** ECE after HB: 0.047;
   Best n_bins 15.
229 save path : ./cifar10-checkpoint/pruned-
dataset/pr_0.8/seed565
230 {'data_path': './data', 'dataset': 'cifar10
', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
cifar10-checkpoint/pruned-dataset/pr_0.8/
seed565/model_best.pth.tar', 'subset_rate': 0.8, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
pruned-dataset/pr_0.8/seed565', 'num_classes': 10, 'num_samples': 15000.000000000002}
231 python version : 3.9.19 (main, May 6 2024,
20:12:36) [MSC v.1916 64 bit (AMD64)]
232 torch version : 2.2.1
233 cudnn version : 8700
234 Dataset: cifar10
235 Data Path: ./data
236 Random seed (for calibration & testing set
split): 12345.
237 Network: resnet18
238 Batchsize: 128
```

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239 N_bins (the number of bins to calculate ECE
): 10.
240 Evaluating run with seed 565:: 60
%|██████████| 3/5 [01:01<00:40, 20.48s/it]
    Files already downloaded and verified
241 Files already downloaded and verified
242 Files already downloaded and verified
243 **Test** Prec@1 90.822 Prec@5 99.478 Error
    @1 9.178; ECE 0.043
244 **Post-hoc Temperature Scaling (grid search
    range temp 0-500)** ECE after TS: 0.008;
    Best temp[] tensor([1.3900], device='cuda:0
').
245 **Post-hoc Histogram Binning (grid search
    range n_bins 10-20)** ECE after HB: 0.028;
    Best n_bins[] 15.
246 save path : ./cifar10-checkpoint/pruned-
    dataset/pr_0.9/seed565
247 {'data_path': './data', 'dataset': 'cifar10
    ', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
    cifar10-checkpoint/pruned-dataset/pr_0.9/
    seed565/model_best.pth.tar', 'subset_rate': 0.9, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
    pruned-dataset/pr_0.9/seed565', 'num_classes': 10, 'num_samples': 9999.99999999998}
248 python version : 3.9.19 (main, May 6 2024,
    20:12:36) [MSC v.1916 64 bit (AMD64)]
249 torch version : 2.2.1
250 cudnn version : 8700
251 Dataset: cifar10
252 Data Path: ./data
253 Random seed (for calibration & testing set
    split): 12345.
254 Network: resnet18
255 Batchsize: 128
```

```
256 N_bins (the number of bins to calculate ECE
   ): 10.
257 Evaluating run with seed 565:: 80
%|██████████| 4/5 [01:21<00:20, 20.25s/it]
  Files already downloaded and verified
258 Files already downloaded and verified
259 Files already downloaded and verified
260 **Test** Prec@1 85.500 Prec@5 98.800 Error
   @1 14.500; ECE 0.072
261 **Post-hoc Temperature Scaling (grid search
   range temp 0-500)** ECE after TS: 0.009;
   Best temp tensor([1.6000], device='cuda:0
   ').
262 **Post-hoc Histogram Binning (grid search
   range n_bins 10-20)** ECE after HB: 0.047;
   Best n_bins 18.
263 save path : ./cifar10-checkpoint/pruned-
dataset/pr_0.3/seed886
264 {'data_path': './data', 'dataset': 'cifar10
', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
cifar10-checkpoint/pruned-dataset/pr_0.3/
seed886/model_best.pth.tar', 'subset_rate': 0.3, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
pruned-dataset/pr_0.3/seed886', 'num_classes': 10, 'num_samples': 4999.999999999999}
265 python version : 3.9.19 (main, May 6 2024,
20:12:36) [MSC v.1916 64 bit (AMD64)]
266 torch version : 2.2.1
267 cudnn version : 8700
268 Dataset: cifar10
269 Data Path: ./data
270 Random seed (for calibration & testing set
split): 12345.
271 Network: resnet18
272 Batchsize: 128
```

```
273 N_bins (the number of bins to calculate ECE
    ): 10.
274 Evaluating run with seed 565:: 100
%|██████| 5/5 [01:41<00:00, 20.30s/it]
275 Evaluating run with seed 886:: 0
%|          | 0/5 [00:00<?, ?it/s]Files
already downloaded and verified
276 Files already downloaded and verified
277 Files already downloaded and verified
278 **Test** Prec@1 95.433 Prec@5 99.867 Error
@1 4.567; ECE 0.022
279 **Post-hoc Temperature Scaling (grid search
range temp 0-500)** ECE after TS: 0.007;
Best temp tensor([1.2300], device='cuda:0
').
280 **Post-hoc Histogram Binning (grid search
range n_bins 10-20)** ECE after HB: 0.039;
Best n_bins 13.
281 save_path : ./cifar10-checkpoint/pruned-
dataset/pr_0.5/seed886
282 {'data_path': './data', 'dataset': 'cifar10
', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
cifar10-checkpoint/pruned-dataset/pr_0.5/
seed886/model_best.pth.tar', 'subset_rate': 0.5, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
pruned-dataset/pr_0.5/seed886', 'num_classes': 10, 'num_samples': 35000.0}
283 python version : 3.9.19 (main, May 6 2024,
20:12:36) [MSC v.1916 64 bit (AMD64)]
284 torch version : 2.2.1
285 cudnn version : 8700
286 Dataset: cifar10
287 Data Path: ./data
288 Random seed (for calibration & testing set
split): 12345.
```

```
289 Network: resnet18
290 Batchsize: 128
291 N_bins (the number of bins to calculate ECE
   ): 10.
292 Evaluating run with seed 886:: 20
%|██████████| 1/5 [00:21<01:25, 21.35s/it]
Files already downloaded and verified
293 Files already downloaded and verified
294 Files already downloaded and verified
295 **Test** Prec@1 95.267 Prec@5 99.878 Error
@1 4.733; ECE 0.021
296 **Post-hoc Temperature Scaling (grid search
range temp 0-500)** ECE after TS: 0.010;
Best temp tensor([1.2300], device='cuda:0
').
297 **Post-hoc Histogram Binning (grid search
range n_bins 10-20)** ECE after HB: 0.029;
Best n_bins 19.
298 save_path : ./cifar10-checkpoint/pruned-
dataset/pr_0.7/seed886
299 {'data_path': './data', 'dataset': 'cifar10
', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
cifar10-checkpoint/pruned-dataset/pr_0.7/
seed886/model_best.pth.tar', 'subset_rate': 0.7, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
pruned-dataset/pr_0.7/seed886', 'num_classes': 10, 'num_samples': 25000.0}
300 python version : 3.9.19 (main, May 6 2024,
20:12:36) [MSC v.1916 64 bit (AMD64)]
301 torch version : 2.2.1
302 cudnn version : 8700
303 Dataset: cifar10
304 Data Path: ./data
305 Random seed (for calibration & testing set
split): 12345.
```

```
306 Network: resnet18
307 Batchsize: 128
308 N_bins (the number of bins to calculate ECE
   ): 10.
309 Evaluating run with seed 886:: 40
%|██████████| 2/5 [00:41<01:02, 20.84s/it]
Files already downloaded and verified
310 Files already downloaded and verified
311 Files already downloaded and verified
312 **Test** Prec@1 92.633 Prec@5 99.656 Error
@1 7.367; ECE 0.036
313 **Post-hoc Temperature Scaling (grid search
range temp 0-500)** ECE after TS: 0.014;
Best temp tensor([1.3400], device='cuda:0
').
314 **Post-hoc Histogram Binning (grid search
range n_bins 10-20)** ECE after HB: 0.035;
Best n_bins 14.
315 save path : ./cifar10-checkpoint/pruned-
dataset/pr_0.8/seed886
316 {'data_path': './data', 'dataset': 'cifar10
', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
cifar10-checkpoint/pruned-dataset/pr_0.8/
seed886/model_best.pth.tar', 'subset_rate': 0.8, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
pruned-dataset/pr_0.8/seed886', 'num_classes': 10, 'num_samples': 15000.000000000002}
317 python version : 3.9.19 (main, May 6 2024,
20:12:36) [MSC v.1916 64 bit (AMD64)]
318 torch version : 2.2.1
319 cudnn version : 8700
320 Dataset: cifar10
321 Data Path: ./data
322 Random seed (for calibration & testing set
split): 12345.
```

```
323 Network: resnet18
324 Batchsize: 128
325 N_bins (the number of bins to calculate ECE
   ): 10.
326 Evaluating run with seed 886:: 60
%|██████████| 3/5 [01:01<00:40, 20.31s/it]
Files already downloaded and verified
327 Files already downloaded and verified
328 Files already downloaded and verified
329 **Test** Prec@1 90.833 Prec@5 99.611 Error
@1 9.167; ECE 0.044
330 **Post-hoc Temperature Scaling (grid search
range temp 0-500)** ECE after TS: 0.013;
Best temp tensor([1.3200], device='cuda:0
').
331 **Post-hoc Histogram Binning (grid search
range n_bins 10-20)** ECE after HB: 0.052;
Best n_bins 12.
332 save path : ./cifar10-checkpoint/pruned-
dataset/pr_0.9/seed886
333 {'data_path': './data', 'dataset': 'cifar10
', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
cifar10-checkpoint/pruned-dataset/pr_0.9/
seed886/model_best.pth.tar', 'subset_rate': 0.9, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
pruned-dataset/pr_0.9/seed886', 'num_classes': 10, 'num_samples': 9999.99999999998}
334 python version : 3.9.19 (main, May 6 2024,
20:12:36) [MSC v.1916 64 bit (AMD64)]
335 torch version : 2.2.1
336 cudnn version : 8700
337 Dataset: cifar10
338 Data Path: ./data
339 Random seed (for calibration & testing set
split): 12345.
```

```
340 Network: resnet18
341 Batchsize: 128
342 N_bins (the number of bins to calculate ECE
   ): 10.
343 Evaluating run with seed 886:: 80
%|██████████| 4/5 [01:20<00:19, 19.97s/it]
Files already downloaded and verified
344 Files already downloaded and verified
345 Files already downloaded and verified
346 **Test** Prec@1 85.744 Prec@5 98.856 Error
@1 14.256; ECE 0.072
347 **Post-hoc Temperature Scaling (grid search
range temp 0-500)** ECE after TS: 0.010;
Best temp tensor([1.6100], device='cuda:0
').
348 **Post-hoc Histogram Binning (grid search
range n_bins 10-20)** ECE after HB: 0.060;
Best n_bins 13.
349 save path : ./cifar10-checkpoint/pruned-
dataset/pr_0.3/seed4233
350 {'data_path': './data', 'dataset': 'cifar10
', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
cifar10-checkpoint/pruned-dataset/pr_0.3/
seed4233/model_best.pth.tar', 'subset_rate
': 0.3, 'n_bins': 10, 'ngpu': 1, 'use_cuda
': True, 'save_path': './cifar10-checkpoint/
pruned-dataset/pr_0.3/seed4233', 'num_classes': 10, 'num_samples': 4999.
999999999999}
351 python version : 3.9.19 (main, May 6 2024,
20:12:36) [MSC v.1916 64 bit (AMD64)]
352 torch version : 2.2.1
353 cudnn version : 8700
354 Dataset: cifar10
355 Data Path: ./data
356 Random seed (for calibration & testing set
```

```
356 split): 12345.  
357 Network: resnet18  
358 Batchsize: 128  
359 N_bins (the number of bins to calculate ECE  
): 10.  
360 Evaluating run with seed 886:: 100  
%|██████████| 5/5 [01:40<00:00, 20.19s/it]  
361 Evaluating run with seed 4233:: 0  
%|           | 0/5 [00:00<?, ?it/s]Files  
already downloaded and verified  
362 Files already downloaded and verified  
363 Files already downloaded and verified  
364 **Test** Prec@1 95.167 Prec@5 99.900 Error  
@1 4.833; ECE 0.024  
365 **Post-hoc Temperature Scaling (grid search  
range temp 0-500)** ECE after TS: 0.014;  
Best temp: tensor([1.2800], device='cuda:0'  
').  
366 **Post-hoc Histogram Binning (grid search  
range n_bins 10-20)** ECE after HB: 0.030;  
Best n_bins: 12.  
367 save path : ./cifar10-checkpoint/pruned-  
dataset/pr_0.5/seed4233  
368 {'data_path': './data', 'dataset': 'cifar10'  
, 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './  
cifar10-checkpoint/pruned-dataset/pr_0.5/  
seed4233/model_best.pth.tar', 'subset_rate': 0.5, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/  
pruned-dataset/pr_0.5/seed4233', 'num_classes': 10, 'num_samples': 35000.0}  
369 python version : 3.9.19 (main, May 6 2024,  
20:12:36) [MSC v.1916 64 bit (AMD64)]  
370 torch version : 2.2.1  
371 cudnn version : 8700  
372 Dataset: cifar10
```

```
373 Data Path: ./data
374 Random seed (for calibration & testing set
    split): 12345.
375 Network: resnet18
376 Batchsize: 128
377 N_bins (the number of bins to calculate ECE
    ): 10.
378 Evaluating run with seed 4233:: 20
%I███████ | 1/5 [00:20<01:23, 20.93s/it]
    Files already downloaded and verified
379 Files already downloaded and verified
380 Files already downloaded and verified
381 Evaluating run with seed 4233:: 40
%I███████ | 2/5 [00:41<01:01, 20.55s/it]
] **Test** Prec@1 95.078 Prec@5 99.800
Error@1 4.922; ECE 0.022
382 **Post-hoc Temperature Scaling (grid search
    range temp 0-500)** ECE after TS: 0.011;
    Best temp tensor([1.2600], device='cuda:0
        ').
383 **Post-hoc Histogram Binning (grid search
    range n_bins 10-20)** ECE after HB: 0.029;
    Best n_bins 13.
384 save path : ./cifar10-checkpoint/pruned-
    dataset/pr_0.7/seed4233
385 {'data_path': './data', 'dataset': 'cifar10
    ', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
    cifar10-checkpoint/pruned-dataset/pr_0.7/
    seed4233/model_best.pth.tar', 'subset_rate': 0.7, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
    pruned-dataset/pr_0.7/seed4233', 'num_classes': 10, 'num_samples': 25000.0}
386 python version : 3.9.19 (main, May 6 2024,
    20:12:36) [MSC v.1916 64 bit (AMD64)]
387 torch version : 2.2.1
```

```
388 cudnn version : 8700
389 Dataset: cifar10
390 Data Path: ./data
391 Random seed (for calibration & testing set
split): 12345.
392 Network: resnet18
393 Batchsize: 128
394 N_bins (the number of bins to calculate ECE
): 10.
395 Loading CIFAR10... Files already downloaded
and verified
396 Files already downloaded and verified
397 Files already downloaded and verified
398 **Test** Prec@1 92.644 Prec@5 99.789 Error
@1 7.356; ECE 0.037
399 **Post-hoc Temperature Scaling (grid search
range temp 0-500)** ECE after TS: 0.015;
Best temp tensor([1.2500], device='cuda:0
').
400 **Post-hoc Histogram Binning (grid search
range n_bins 10-20)** ECE after HB: 0.043;
Best n_bins 13.
401 save path : ./cifar10-checkpoint/pruned-
dataset/pr_0.8/seed4233
402 {'data_path': './data', 'dataset': 'cifar10
', 'batch_size': 128, 'workers': 2, '
pin_memo': False, 'random_seed': 12345, '
arch': 'resnet18', 'checkpoint_path': './
cifar10-checkpoint/pruned-dataset/pr_0.8/
seed4233/model_best.pth.tar', 'subset_rate
': 0.8, 'n_bins': 10, 'ngpu': 1, 'use_cuda
': True, 'save_path': './cifar10-checkpoint/
pruned-dataset/pr_0.8/seed4233', '
num_classes': 10, 'num_samples': 15000.
00000000002}
403 python version : 3.9.19 (main, May 6 2024,
20:12:36) [MSC v.1916 64 bit (AMD64)]
404 torch version : 2.2.1
```

```
405 cudnn version : 8700
406 Dataset: cifar10
407 Data Path: ./data
408 Random seed (for calibration & testing set
    split): 12345.
409 Network: resnet18
410 Batchsize: 128
411 N_bins (the number of bins to calculate ECE
    ): 10.
412 Evaluating run with seed 4233:: 60
%|██████████| 3/5 [01:00<00:40, 20.16s/it]
    Files already downloaded and verified
413 Files already downloaded and verified
414 Files already downloaded and verified
415 **Test** Prec@1 90.800 Prec@5 99.589 Error
    @1 9.200; ECE 0.043
416 **Post-hoc Temperature Scaling (grid search
    range temp 0-500)** ECE after TS: 0.011;
    Best temp: tensor([1.3400], device='cuda:0
        ').
417 **Post-hoc Histogram Binning (grid search
    range n_bins 10-20)** ECE after HB: 0.044;
    Best n_bins: 17.
418 save path : ./cifar10-checkpoint/pruned-
    dataset/pr_0.9/seed4233
419 {'data_path': './data', 'dataset': 'cifar10
    ', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
    cifar10-checkpoint/pruned-dataset/pr_0.9/
    seed4233/model_best.pth.tar', 'subset_rate
    ': 0.9, 'n_bins': 10, 'ngpu': 1, 'use_cuda
    ': True, 'save_path': './cifar10-checkpoint/
    pruned-dataset/pr_0.9/seed4233', 'num_classes
    ': 10, 'num_samples': 9999.
    99999999998}
420 python version : 3.9.19 (main, May 6 2024,
    20:12:36) [MSC v.1916 64 bit (AMD64)]
```

```
421 torch version : 2.2.1
422 cudnn version : 8700
423 Dataset: cifar10
424 Data Path: ./data
425 Random seed (for calibration & testing set
split): 12345.
426 Network: resnet18
427 Batchsize: 128
428 N_bins (the number of bins to calculate ECE
): 10.
429 Evaluating run with seed 4233:: 80
%|██████████| 4/5 [01:20<00:19, 19.93s/it]
Files already downloaded and verified
430 Files already downloaded and verified
431 Files already downloaded and verified
432 **Test** Prec@1 85.344 Prec@5 98.878 Error
@1 14.656; ECE 0.073
433 **Post-hoc Temperature Scaling (grid search
range temp 0-500)** ECE after TS: 0.023;
Best temp: tensor([1.5000], device='cuda:0
').
434 **Post-hoc Histogram Binning (grid search
range n_bins 10-20)** ECE after HB: 0.062;
Best n_bins: 13.
435 -----
436 Evaluating on cifar100...
437 save path : ./cifar10-checkpoint/pruned-
dataset/pr_0.3/seed77
438 {'data_path': './data', 'dataset': 'cifar100
', 'batch_size': 128, 'workers': 2, 'pin_memo': False, 'random_seed': 12345, 'arch': 'resnet18', 'checkpoint_path': './
cifar10-checkpoint/pruned-dataset/pr_0.3/
seed77/model_best.pth.tar', 'subset_rate': 0
.3, 'n_bins': 10, 'ngpu': 1, 'use_cuda': True, 'save_path': './cifar10-checkpoint/
pruned-dataset/pr_0.3/seed77', 'num_classes
': 10, 'num_samples': 4999.999999999999}
```

```
439 python version : 3.9.19 (main, May 6 2024,
   20:12:36) [MSC v.1916 64 bit (AMD64)]
440 torch version : 2.2.1
441 cudnn version : 8700
442 Dataset: cifar100
443 Data Path: ./data
444 Random seed (for calibration & testing set
   split): 12345.
445 Network: resnet18
446 Batchsize: 128
447 N_bins (the number of bins to calculate ECE
   ): 10.
448 Evaluating run with seed 4233:: 100
   %|██████████| 5/5 [01:39<00:00, 19.96s/it]
449 Evaluating run with seed 77:: 0
   %|          | 0/5 [00:00<?, ?it/s]
450 Traceback (most recent call last):
451   File "E:\tqq\Dataset-Pruning-TDDS\
   evaluate_calibration.py", line 452, in <
   module>
452     main()
453   File "E:\tqq\Dataset-Pruning-TDDS\
   evaluate_calibration.py", line 421, in main
454     data_mask = np.loadad('./cifar10-
   checkpoint/generated_mask/
   data_mask_win10_ep30.npy')
455   File "D:\Py\Anaconda\envs\tdds\lib\site-
   packages\numpy\__init__.py", line 333, in
   __getattr__
456     raise AttributeError("module {!r} has no
   attribute "
457 AttributeError: module 'numpy' has no
   attribute 'loadad'
458
459 Process finished with exit code 1
460
```