**EfficientNetv2\_s,** training batch size=**128**, testing bs=**128,** optimizer=**SGD, lr=0.02**, **epoch=80**

+ RandomHorizontalFlip() + RandomCrop(32, padding=4)

num of classes: 10

training on cuda:0

epoch 1, loss 2.4768, train acc 0.193, test acc 0.246, time 274.5 sec

epoch 2, loss 0.8705, train acc 0.428, test acc 0.645, time 290.3 sec

epoch 3, loss 0.3001, train acc 0.718, test acc 0.796, time 298.0 sec

epoch 4, loss 0.1670, train acc 0.794, test acc 0.840, time 301.2 sec

epoch 5, loss 0.1118, train acc 0.830, test acc 0.836, time 302.2 sec

epoch 6, loss 0.0853, train acc 0.844, test acc 0.881, time 303.6 sec

epoch 7, loss 0.0683, train acc 0.853, test acc 0.880, time 305.1 sec

epoch 8, loss 0.0533, train acc 0.869, test acc 0.881, time 304.3 sec

epoch 9, loss 0.0453, train acc 0.876, test acc 0.894, time 301.3 sec

epoch 10, loss 0.0379, train acc 0.884, test acc 0.895, time 301.1 sec

epoch 11, loss 0.0326, train acc 0.889, test acc 0.859, time 303.9 sec

epoch 12, loss 0.0302, train acc 0.888, test acc 0.910, time 304.2 sec

epoch 13, loss 0.0251, train acc 0.900, test acc 0.912, time 305.6 sec

epoch 14, loss 0.0227, train acc 0.904, test acc 0.916, time 304.3 sec

epoch 15, loss 0.0212, train acc 0.901, test acc 0.895, time 305.6 sec

epoch 16, loss 0.0196, train acc 0.903, test acc 0.910, time 303.7 sec

epoch 17, loss 0.0179, train acc 0.908, test acc 0.907, time 303.4 sec

epoch 18, loss 0.0175, train acc 0.905, test acc 0.913, time 304.2 sec

epoch 19, loss 0.0163, train acc 0.904, test acc 0.913, time 305.3 sec

epoch 20, loss 0.0156, train acc 0.904, test acc 0.923, time 304.0 sec

epoch 21, loss 0.0147, train acc 0.906, test acc 0.928, time 305.0 sec

epoch 22, loss 0.0136, train acc 0.910, test acc 0.922, time 304.8 sec

epoch 23, loss 0.0142, train acc 0.900, test acc 0.919, time 304.9 sec

epoch 24, loss 0.0135, train acc 0.901, test acc 0.920, time 306.6 sec

epoch 25, loss 0.0116, train acc 0.913, test acc 0.924, time 305.3 sec

epoch 26, loss 0.0107, train acc 0.916, test acc 0.928, time 305.2 sec

epoch 27, loss 0.0101, train acc 0.918, test acc 0.918, time 305.0 sec

epoch 28, loss 0.0100, train acc 0.916, test acc 0.927, time 305.3 sec

epoch 29, loss 0.0093, train acc 0.919, test acc 0.921, time 306.7 sec

epoch 30, loss 0.0092, train acc 0.917, test acc 0.916, time 305.7 sec

epoch 31, loss 0.0089, train acc 0.918, test acc 0.924, time 305.3 sec

epoch 32, loss 0.0086, train acc 0.918, test acc 0.925, time 306.1 sec

epoch 33, loss 0.0083, train acc 0.918, test acc 0.910, time 306.2 sec

epoch 34, loss 0.0083, train acc 0.916, test acc 0.921, time 306.4 sec

epoch 35, loss 0.0079, train acc 0.919, test acc 0.924, time 307.8 sec

epoch 36, loss 0.0075, train acc 0.919, test acc 0.923, time 306.5 sec

epoch 37, loss 0.0074, train acc 0.918, test acc 0.918, time 306.2 sec

epoch 38, loss 0.0073, train acc 0.918, test acc 0.919, time 306.3 sec

epoch 39, loss 0.0071, train acc 0.917, test acc 0.923, time 307.8 sec

epoch 40, loss 0.0068, train acc 0.918, test acc 0.910, time 305.9 sec

epoch 41, loss 0.0067, train acc 0.918, test acc 0.924, time 307.1 sec

epoch 42, loss 0.0066, train acc 0.917, test acc 0.913, time 307.5 sec

epoch 43, loss 0.0066, train acc 0.916, test acc 0.925, time 306.8 sec

epoch 44, loss 0.0061, train acc 0.921, test acc 0.905, time 306.5 sec

epoch 45, loss 0.0061, train acc 0.918, test acc 0.921, time 306.6 sec

epoch 46, loss 0.0059, train acc 0.921, test acc 0.912, time 306.1 sec

epoch 47, loss 0.0059, train acc 0.918, test acc 0.921, time 306.6 sec

epoch 48, loss 0.0057, train acc 0.919, test acc 0.924, time 305.9 sec

epoch 49, loss 0.0054, train acc 0.922, test acc 0.915, time 305.6 sec

epoch 50, loss 0.0054, train acc 0.920, test acc 0.929, time 306.3 sec

epoch 51, loss 0.0051, train acc 0.922, test acc 0.918, time 305.0 sec

epoch 52, loss 0.0050, train acc 0.924, test acc 0.927, time 305.2 sec

epoch 53, loss 0.0050, train acc 0.922, test acc 0.929, time 306.4 sec

epoch 54, loss 0.0048, train acc 0.923, test acc 0.917, time 303.2 sec

epoch 55, loss 0.0048, train acc 0.923, test acc 0.933, time 318.5 sec

epoch 56, loss 0.0048, train acc 0.923, test acc 0.924, time 332.3 sec

epoch 57, loss 0.0046, train acc 0.922, test acc 0.916, time 337.8 sec

epoch 58, loss 0.0044, train acc 0.925, test acc 0.928, time 336.9 sec

epoch 59, loss 0.0043, train acc 0.925, test acc 0.930, time 327.0 sec

epoch 60, loss 0.0043, train acc 0.924, test acc 0.931, time 324.5 sec

epoch 61, loss 0.0042, train acc 0.924, test acc 0.921, time 324.0 sec

epoch 62, loss 0.0040, train acc 0.926, test acc 0.930, time 324.9 sec

epoch 63, loss 0.0040, train acc 0.926, test acc 0.928, time 320.2 sec

epoch 64, loss 0.0039, train acc 0.926, test acc 0.911, time 326.0 sec

epoch 65, loss 0.0040, train acc 0.925, test acc 0.915, time 324.4 sec

epoch 66, loss 0.0039, train acc 0.925, test acc 0.922, time 323.6 sec

epoch 67, loss 0.0039, train acc 0.923, test acc 0.932, time 322.7 sec

epoch 68, loss 0.0036, train acc 0.928, test acc 0.922, time 321.4 sec

epoch 69, loss 0.0036, train acc 0.927, test acc 0.922, time 322.7 sec

epoch 70, loss 0.0036, train acc 0.926, test acc 0.925, time 321.7 sec

epoch 71, loss 0.0035, train acc 0.926, test acc 0.926, time 321.9 sec

epoch 72, loss 0.0034, train acc 0.928, test acc 0.936, time 322.7 sec

epoch 73, loss 0.0033, train acc 0.928, test acc 0.937, time 322.7 sec

epoch 74, loss 0.0033, train acc 0.929, test acc 0.938, time 323.7 sec

epoch 75, loss 0.0032, train acc 0.929, test acc 0.925, time 322.8 sec

epoch 76, loss 0.0032, train acc 0.928, test acc 0.941, time 323.0 sec

epoch 77, loss 0.0031, train acc 0.930, test acc 0.933, time 323.8 sec

epoch 78, loss 0.0031, train acc 0.929, test acc 0.924, time 304.8 sec

epoch 79, loss 0.0031, train acc 0.929, test acc 0.927, time 302.9 sec

epoch 80, loss 0.0031, train acc 0.927, test acc 0.932, time 307.0 sec

Validation: Accuracy of the network: 91.83729183729184 %

Testing: Accuracy of the network: 93.19518953820113 %

Brier before calibration 0.10041774346325531

ECE before calibration: 0.01022077302573304

calibrating...

Closed Brier temperature\_scaling 0.10003221203956551

ECE temperature\_scaling calibration: 0.003918299558539927