**DenseNet121,** training batch size=**128**, testing bs=**128,** optimizer=**SGD, lr=0.02**, **epoch=40**

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

epoch 1, loss 1.6756, train acc 0.412, test acc 0.569, time 210.9 sec

epoch 2, loss 0.2713, train acc 0.827, test acc 0.837, time 223.3 sec

epoch 3, loss 0.1212, train acc 0.889, test acc 0.886, time 228.4 sec

epoch 4, loss 0.0772, train acc 0.906, test acc 0.897, time 230.7 sec

epoch 5, loss 0.0562, train acc 0.915, test acc 0.909, time 232.3 sec

epoch 6, loss 0.0428, train acc 0.924, test acc 0.910, time 232.8 sec

epoch 7, loss 0.0356, train acc 0.925, test acc 0.914, time 233.2 sec

epoch 8, loss 0.0289, train acc 0.931, test acc 0.916, time 233.3 sec

epoch 9, loss 0.0246, train acc 0.935, test acc 0.862, time 233.4 sec

epoch 10, loss 0.0221, train acc 0.935, test acc 0.944, time 233.6 sec

epoch 11, loss 0.0187, train acc 0.939, test acc 0.940, time 233.5 sec

epoch 12, loss 0.0166, train acc 0.942, test acc 0.940, time 233.8 sec

epoch 13, loss 0.0150, train acc 0.942, test acc 0.923, time 233.2 sec

epoch 14, loss 0.0135, train acc 0.945, test acc 0.930, time 234.0 sec

epoch 15, loss 0.0126, train acc 0.945, test acc 0.938, time 233.1 sec

epoch 16, loss 0.0117, train acc 0.946, test acc 0.941, time 233.5 sec

epoch 17, loss 0.0108, train acc 0.947, test acc 0.919, time 233.9 sec

epoch 18, loss 0.0100, train acc 0.948, test acc 0.949, time 233.3 sec

epoch 19, loss 0.0092, train acc 0.950, test acc 0.940, time 235.4 sec

epoch 20, loss 0.0088, train acc 0.948, test acc 0.942, time 240.8 sec

epoch 21, loss 0.0082, train acc 0.950, test acc 0.919, time 239.1 sec

epoch 22, loss 0.0079, train acc 0.950, test acc 0.923, time 236.8 sec

epoch 23, loss 0.0074, train acc 0.950, test acc 0.952, time 233.6 sec

epoch 24, loss 0.0070, train acc 0.952, test acc 0.944, time 234.1 sec

epoch 25, loss 0.0068, train acc 0.950, test acc 0.949, time 233.4 sec

epoch 26, loss 0.0064, train acc 0.952, test acc 0.941, time 234.1 sec

epoch 27, loss 0.0062, train acc 0.951, test acc 0.944, time 233.8 sec

epoch 28, loss 0.0057, train acc 0.955, test acc 0.943, time 234.1 sec

epoch 29, loss 0.0056, train acc 0.953, test acc 0.936, time 233.8 sec

epoch 30, loss 0.0057, train acc 0.950, test acc 0.945, time 233.8 sec

epoch 31, loss 0.0056, train acc 0.950, test acc 0.944, time 234.3 sec

epoch 32, loss 0.0050, train acc 0.955, test acc 0.947, time 234.0 sec

epoch 33, loss 0.0048, train acc 0.955, test acc 0.952, time 234.6 sec

epoch 34, loss 0.0046, train acc 0.955, test acc 0.951, time 234.5 sec

epoch 35, loss 0.0044, train acc 0.955, test acc 0.947, time 234.0 sec

epoch 36, loss 0.0043, train acc 0.955, test acc 0.947, time 234.5 sec

epoch 37, loss 0.0046, train acc 0.950, test acc 0.952, time 234.0 sec

epoch 38, loss 0.0041, train acc 0.955, test acc 0.959, time 234.1 sec

epoch 39, loss 0.0040, train acc 0.956, test acc 0.911, time 235.3 sec

epoch 40, loss 0.0041, train acc 0.952, test acc 0.939, time 233.9 sec

Validation: Accuracy of the network: 91.93284193284194 %

Testing: Accuracy of the network: 93.85724231131496 %

Brier before calibration 0.09107226786849472

ECE before calibration: 0.008226006601103394

calibrating...

Closed Brier temperature\_scaling 0.09080819648292877

ECE temperature\_scaling calibration: **0.010167172977948662**