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

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

OOD accuracy without the "unknown" label: Accuracy of the network: 68.99969268592501 %

testing openmax...

0 1 2 3 4 5 6

Accuracy of the network: 68.99969268592501 %

Accuracy of the network: 95.15696784073506 %

threshold is 0.00:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 69.495 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.22303004607732263

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.19531800956468165

threshold is 0.05:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 69.495 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.22303004607732263

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.19531800956468165

threshold is 0.10:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 69.495 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.22303004607732263

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.19531800956468165

threshold is 0.15:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 69.495 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.22303004607732263

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.19531800956468165

threshold is 0.20:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 69.495 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.22303004607732263

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.19531800956468165

threshold is 0.25:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 69.576 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.22303004607732263

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.19531800956468165

threshold is 0.30:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 69.829 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.22303004607732263

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.19531800956468165

threshold is 0.35:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 70.290 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.2245926766140591

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.19690476741685264

threshold is 0.40:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 70.917 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.22914357920255699

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.20441415878476435

threshold is 0.45:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 71.704 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.23157816070241286

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.2075552577685196

threshold is 0.50:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 72.565 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.2338425531369744

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.21037566771738794

threshold is 0.55:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 73.656 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.23591781596721279

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.21139750842602617

threshold is 0.60:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 74.562 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.23627333660834976

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.2125023791008957

threshold is 0.65:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 75.603 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.2362950592225654

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.21297641854089833

threshold is 0.70:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 76.736 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.23615623894247745

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.21306182895618198

threshold is 0.75:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 77.950 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.23575295823882086

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.21270433355857787

threshold is 0.80:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 79.137 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.2347433384972697

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.21250295294671975

threshold is 0.85:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 80.420 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.2335970262552084

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.21110107533097927

threshold is 0.90:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 81.957 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.23145257008903655

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.20963908831766945

threshold is 0.95:

Threshold accuracy openmax calibration: 69.49523663183774 %

Threshold accuracy: 83.178 %

Brier before calibration: 0.507021997602439

ECE before calibration: 0.2290728428866428

calibrating...

Brier temperature\_scaling calibration: 0.4831997984415864

ECE temperature\_scaling calibration: 0.20687557578306662