

CleanAI Analysis Report

Model Informations

The table below shows general information about the 'MobileNetV2' model.

	Model name	Total params	Number of layers
Informations	MobileNetV2	3504872	213

Coverage Values of Layers (For Only One Input)

The table below shows coverage values about the 'MobileNetV2' model's all layers. The 'mean of layer' value shows the average of neurons in that layer. When calculating the number of covered neurons, this value is accepted as the threshold value for that layer. NOTE: The coverage value of a layer is the ratio of the number of covered neurons to the total number of neurons in that layer. The values in the table below, it was formed as a result of giving the 'photo-1684495498026-3419b55bdbac.jpeg' input in the data set to the model.

Layer index	Activation function	Number of covered neurons	Number of total neurons	Coverage value	Mean of layer
Layer 5	ReLU6	22394743	44915200	49.86%	0.29
Layer 11	ReLU6	18523507	44915200	41.24%	0.48
Layer 19	ReLU6	64381943	134745600	47.78%	0.14
Layer 23	ReLU6	10880347	33686400	32.30%	0.18
Layer 31	ReLU6	21679534	50529600	42.90%	0.16
Layer 35	ReLU6	15499754	50529600	30.67%	0.11
Layer 43	ReLU6	19556918	50529600	38.70%	0.09
Layer 47	ReLU6	5092852	12649824	40.26%	0.18
Layer 55	ReLU6	7807289	16866432	46.29%	0.14
Layer 59	ReLU6	5092881	16866432	30.20%	0.07
Layer 67	ReLU6	6904292	16866432	40.94%	0.09
Layer 71	ReLU6	4522752	16866432	26.82%	0.06
Layer 79	ReLU6	6417611	16866432	38.05%	0.08
Layer 83	ReLU6	1833512	4228224	43.36%	0.24
Layer 91	ReLU6	3810042	8456448	45.05%	0.11
Layer 95	ReLU6	2737493	8456448	32.37%	0.06
Layer 103	ReLU6	3619667	8456448	42.80%	0.08
Layer 107	ReLU6	3020935	8456448	35.72%	0.07
Layer 115	ReLU6	3384212	8456448	40.02%	0.06
Layer 119	ReLU6	2791181	8456448	33.01%	0.07
Layer 127	ReLU6	3292766	8456448	38.94%	0.07

Layer 131	ReLU6	3097133	8456448	36.62%	0.12
Layer 139	ReLU6	4693214	12684672	37.00%	0.05
Layer 143	ReLU6	4204792	12684672	33.15%	0.07
Layer 151	ReLU6	4565363	12684672	35.99%	0.05
Layer 155	ReLU6	4357534	12684672	34.35%	0.08
Layer 163	ReLU6	3198706	12684672	25.22%	0.03
Layer 167	ReLU6	1152993	3197376	36.06%	0.13
Layer 175	ReLU6	2058585	5328960	38.63%	0.06
Layer 179	ReLU6	1753950	5328960	32.91%	0.06
Layer 187	ReLU6	1837326	5328960	34.48%	0.05
Layer 191	ReLU6	1740377	5328960	32.66%	0.07
Layer 199	ReLU6	950813	5328960	17.84%	0.01
Layer 203	ReLU6	1882288	5328960	35.32%	0.10
Layer 209	ReLU6	1675123	7105280	23.58%	0.26
All model	-	270412428	684412768	39.51%	

Coverage Values of Layers (For Multiple Inputs) 4 Inputs

The table below shows coverage values for multiple inputs about the 'MobileNetV2' model. The values in the table below, it was formed as a result of giving the '4' inputs in the data set to the model.

Layer index	Number of covered neurons	Number of total neurons	Coverage value
All model	-1687064545	-1925833120	87.60%

Threshold Coverage Values of Layers (TH = 0)

The table below shows threshold coverage values about the 'MobileNetV2' model's all layers. NOTE: The threshold coverage value of a layer is the ratio of the number of covered neurons (number of neurons greater than the threshold value) to the total number of neurons in that layer. The values in the table below, it was formed as a result of giving the 'photo-1684495498026-3419b55bdbac.jpeg' input in the data set to the model.

Layer index	Activation function	Number of covered neurons	Number of total neurons	Coverage value
Layer 5	ReLU6	29164100	44915200	64.93%
Layer 11	ReLU6	32414424	44915200	72.17%
Layer 19	ReLU6	110557627	134745600	82.05%
Layer 23	ReLU6	25641783	33686400	76.12%
Layer 31	ReLU6	43924868	50529600	86.93%

Layer 35	ReLU6	34434036	50529600	68.15%
Layer 43	ReLU6	32907366	50529600	65.12%
Layer 47	ReLU6	9470418	12649824	74.87%
Layer 55	ReLU6	13993857	16866432	82.97%
Layer 59	ReLU6	8450766	16866432	50.10%
Layer 67	ReLU6	12317461	16866432	73.03%
Layer 71	ReLU6	7071664	16866432	41.93%
Layer 79	ReLU6	9629594	16866432	57.09%
Layer 83	ReLU6	3525007	4228224	83.37%
Layer 91	ReLU6	6817445	8456448	80.62%
Layer 95	ReLU6	4349316	8456448	51.43%
Layer 103	ReLU6	6125342	8456448	72.43%
Layer 107	ReLU6	4532495	8456448	53.60%
Layer 115	ReLU6	5346445	8456448	63.22%
Layer 119	ReLU6	4000140	8456448	47.30%
Layer 127	ReLU6	4992728	8456448	59.04%
Layer 131	ReLU6	4535155	8456448	53.63%
Layer 139	ReLU6	7101188	12684672	55.98%
Layer 143	ReLU6	5708317	12684672	45.00%
Layer 151	ReLU6	6726063	12684672	53.03%
Layer 155	ReLU6	5756142	12684672	45.38%
Layer 163	ReLU6	4111209	12684672	32.41%
Layer 167	ReLU6	2686386	3197376	84.02%
Layer 175	ReLU6	3306936	5328960	62.06%
Layer 179	ReLU6	2535628	5328960	47.58%
Layer 187	ReLU6	2868208	5328960	53.82%
Layer 191	ReLU6	2524488	5328960	47.37%
Layer 199	ReLU6	1196930	5328960	22.46%
Layer 203	ReLU6	5102528	5328960	95.75%
Layer 209	ReLU6	2204571	7105280	31.03%
All model	-	466030631	684412768	68.09%

Threshold Coverage Values of Layers (TH = 0.75)

The table below shows threshold coverage values about the 'MobileNetV2' model's all layers. NOTE:
The threshold coverage value of a layer is the ratio of the number of covered neurons (number of

neurons greater than the threshold value) to the total number of neurons in that layer. The values in the table below, it was formed as a result of giving the 'photo-1684495498026-3419b55bdbac.jpeg' input in the data set to the model.

Layer index	Activation function	Number of covered neurons	Number of total neurons	Coverage value
Layer 5	ReLU6	3121847	44915200	6.95%
Layer 11	ReLU6	15424548	44915200	34.34%
Layer 19	ReLU6	1412454	134745600	1.05%
Layer 23	ReLU6	1916875	33686400	5.69%
Layer 31	ReLU6	350904	50529600	0.69%
Layer 35	ReLU6	378665	50529600	0.75%
Layer 43	ReLU6	3907	50529600	0.01%
Layer 47	ReLU6	208316	12649824	1.65%
Layer 55	ReLU6	1	16866432	0.00%
Layer 59	ReLU6	3452	16866432	0.02%
Layer 67	ReLU6	175	16866432	0.00%
Layer 71	ReLU6	3680	16866432	0.02%
Layer 79	ReLU6	1339	16866432	0.01%
Layer 83	ReLU6	170237	4228224	4.03%
Layer 91	ReLU6	0	8456448	0.00%
Layer 95	ReLU6	4827	8456448	0.06%
Layer 103	ReLU6	0	8456448	0.00%
Layer 107	ReLU6	967	8456448	0.01%
Layer 115	ReLU6	28	8456448	0.00%
Layer 119	ReLU6	2120	8456448	0.03%
Layer 127	ReLU6	302	8456448	0.00%
Layer 131	ReLU6	11420	8456448	0.14%
Layer 139	ReLU6	262	12684672	0.00%
Layer 143	ReLU6	5727	12684672	0.05%
Layer 151	ReLU6	384	12684672	0.00%
Layer 155	ReLU6	4437	12684672	0.03%
Layer 163	ReLU6	2261	12684672	0.02%
Layer 167	ReLU6	3607	3197376	0.11%
Layer 175	ReLU6	786	5328960	0.01%
Layer 179	ReLU6	3912	5328960	0.07%
Layer 187	ReLU6	1101	5328960	0.02%
Layer 191	ReLU6	9528	5328960	0.18%

Layer 199	ReLU6	106	5328960	0.00%
Layer 203	ReLU6	193	5328960	0.00%
Layer 209	ReLU6	931965	7105280	13.12%
All model	-	23980333	684412768	3.50%

Sign Coverage and Value Coverage (TH = 0.75) Values of Model

The table below shows Sign Coverage and Value Coverage values of the 'MobileNetV2' model. Sign Coverage: When given two different test inputs, it checks whether the signs of a specific neuron's value after the activation function are the same. If the signs are not the same, the counter is incremented. Value Coverage: When given two different test inputs, it checks whether the difference between the values of a specific neuron after the activation function is greater than the given threshold value. If the difference is greater than the threshold value, the counter is incremented. The values in the table below, it was formed as a result of giving the 'photo-1684495498026-3419b55bdbac.jpeg' and 'ajeet-mestry-UBhpOIHnazM-unsplash.jpg' input in the data set to the model.

Coverage Metric	Number of covered neurons	Number of total neurons	Coverage value
Sign Coverage	273748908	684412768	40.00%
Value Coverage	1619852	684412768	0.24%

SS, SV, VS and VV Coverage (TH = -5) Values of Model

The table below shows Sign-Sign Coverage, Sign-Value Coverage, Value-Sign Coverage and Value-Value Coverage values of the 'MobileNetV2' model. Sign-Sign Coverage: When given two different test inputs, it checks whether the signs of a specific neuron's value after the activation function are the same. If the signs are not the same, the counter is incremented. Value Coverage: When given two different test inputs, it checks whether the difference between the values of a specific neuron after the activation function is greater than the given threshold value. If the difference is greater than the threshold value, the counter is incremented. The values in the table below, it was formed as a result of giving the 'photo-1684495498026-3419b55bdbac.jpeg' and 'ajeet-mestry-UBhpOIHnazM-unsplash.jpg' input in the data set to the model.

Coverage Metric	Number of covered neuron pairs	Number of total neuron pairs	Coverage value
Sign-Sign Coverage	1619852	684412768	0.24%
Sign-Value Coverage	1619852	684412768	0.24%
Value-Sign Coverage	1619852	684412768	0.24%
Value-Value Coverage	1619852	684412768	0.24%