

BrainChip's Akida 1 Model Zoo

Classification Image						Dev Site			Dev Site
Architecture	Resolution	Dataset	#Params	Quantization	Top-1 accuracy	Example	Size (KB)	NPs	Download
AkidaNet 0.25	160	ImageNet	480K	8/4/04	42.58%	Y	403.3	20	Y
AkidaNet 0.5	160	ImageNet	1.4M	8/4/04	57.80%	Y	1089.1	24	Y
AkidaNet	160	ImageNet	4.4M	8/4/04	66.94%	Y	4061.1	68	Y
AkidaNet 0.25	224	ImageNet	480K	8/4/04	46.71%	Y	409.1	22	Y
AkidaNet 0.5	224	ImageNet	1.4M	8/4/04	61.30%	Y	1202.2	32	Y
AkidaNet	224	ImageNet	4.4M	8/4/04	69.65%	Y	6294	116	Y
AkidaNet 0.5 edge	160	ImageNet	4.0M	8/4/04	51.66%	Y	2017.4	38	Y
AkidaNet 0.5 edge	224	ImageNet	4.0M	8/4/04	54.03%	Y	2130.5	46	Y
AkidaNet 0.5	224	PlantVillage	1.1M	8/4/04	97.92%	Y	1019.1	33	Y
AkidaNet 0.25	96	Visual Wake Words	229K	8/4/04	84.77%	N	179.6	16	Y
MobileNetV1 0.25	160	ImageNet	467K	8/4/04	36.05%	N	376.4	20	Y
MobileNetV1 0.5	160	ImageNet	1.3M	8/4/04	54.59%	N	1007	24	Y
MobileNetV1	160	ImageNet	4.2M	8/4/04	65.47%	N	3525.8	65	Y
MobileNetV1 0.25	224	ImageNet	467K	8/4/04	39.73%	N	377.9	22	Y
MobileNetV1 0.5	224	ImageNet	1.3M	8/4/04	58.50%	N	1065.3	32	Y
MobileNetV1	224	ImageNet	4.2M	8/4/04	68.76%	N	5223.3	110	Y
GXNOR	28	MNIST	1.6M	2/2/01	98.03%	N	412.8	3	Y
Object Detection									
YOLOv2	224	PASCAL-VOC 2007 - person and car classes	3.6M	8/4/04	41.51%	Y	3061.4	71	Y
YOLOv2	224	WIDER FACE	3.5M	8/4/04	77.63%	N	3053.1	71	Y
Regression									
VGG-like	32	UTKFace (age estimation)	458K	8/2/02	6.1791	Y	138.6	6	Y
Face Recognition									
Face Recognition	112×96	CASIA Webface face identification	2.3M	8/4/04	70.18%	N	1930.1	21	Y
Edge Learning version	112×96	CASIA Webface face identification	23.6M	8/4/04	71.13%	N	6980.2	34	Y
Key Word Spotting									
DS-CNN		Google speech command	22.7K	8/4/04	91.72%	Y	23.1	5	Y
Point Cloud Classification									
PointNet++		ModelNet40 3D Point Cloud	602K	8/4/04	79.78%	N	490.9	12	N

The "8/4/04" quantization scheme stands for 8-bit weights in the input layer, 4-bit weights in other layers and 4-bit activations.

The NPs column provides the minimal number of neural processors required for the model execution on the Akida IP.