

Modelli di Keras

MobileNet				
Guess T1	2676	Model Size	16 MB	
Guess T5	3480			
Total	3923			
TOP 1	68.21%	Expected TOP 1	70.40%	-2.19%
TOP 5	88.71%	Expected TOP 5	89.50%	-0.79%

Inception V3				
Guess T1	2983	Model Size	92 MB	
Guess T5	3643			
Total	3923			
TOP 1	76.04%	Expected TOP 1	77.90%	-1.86%
TOP 5	92.86%	Expected TOP 5	93.70%	-0.84%

ResNet152 V2				
Guess T1	2699	Model Size	232 MB	
Guess T5	3496			
Total	3923			
TOP 1	68.80%	Expected TOP 1	78.00%	-9.20%
TOP 5	89.12%	Expected TOP 5	94.21%	-5.09%

ResNet50 V2				
Guess T1	2567	Model Size	98 MB	
Guess T5	3422			
Total	3923			
TOP 1	65.43%	Expected TOP 1	76.01%	-10.58%
TOP 5	87.23%	Expected TOP 5	92.82%	-5.59%

Modelli di PyTorch

MobileNetV2				
Guess T1	2809	Model Size	14 MB	
Guess T5	3524			
Total	3923			
TOP 1	71.60%	Expected TOP 1	71.88%	-0.27%
TOP 5	89.83%	Expected TOP 5	90.27%	-0.44%

Inception V3				
Guess T1	3015	Model Size	104 MB	
Guess T5	3651			
Total	3923			
TOP 1	76.85%	Expected TOP 1	77.29%	-0.44%
TOP 5	93.07%	Expected TOP 5	93.45%	-0.38%

ResNet152				
Guess T1	3001	Model Size	231 MB	
Guess T5	3678			
Total	3923			
TOP 1	76.50%	Expected TOP 1	78.31%	-1.81%
TOP 5	93.75%	Expected TOP 5	94.05%	-0.29%

AlexNet				
Guess T1	2209	Model Size	234 MB	
Guess T5	3099			
Total	3923			
TOP 1	56.31%	Expected TOP 1	56.52%	-0.21%
TOP 5	79.00%	Expected TOP 5	79.07%	-0.07%

Keras VS PyTorch

Diff *	Winner
-3.39%	PyTorch
-1.12%	PyTorch

Diff	Winner
-0.82%	PyTorch
-0.20%	PyTorch

Diff *	Winner
-7.70%	PyTorch
-4.64%	PyTorch

ResNet50				
Guess T1	2661	Model Size	98 MB	
Guess T5	3466			
Total	3923			
TOP 1	67.83%	Expected TOP 1	74.90%	-7.07%
TOP 5	88.35%	Expected TOP 5	91.20%	-2.85%

VGG16				
Guess T1	2502	Model Size	528 MB	
Guess T5	3369			
Total	3923			
TOP 1	63.78%	Expected TOP 1	71.30%	-7.52%
TOP 5	85.88%	Expected TOP 5	90.01%	-4.13%

VGG19				
Guess T1	2516	Model Size	549 MB	
Guess T5	3365			
Total	3923			
TOP 1	64.13%	Expected TOP 1	71.30%	-7.17%
TOP 5	85.78%	Expected TOP 5	90.00%	-4.22%

ResNet50				
Guess T1	2970	Model Size	98 MB	
Guess T5	3650			
Total	3923			
TOP 1	75.71%	Expected TOP 1	76.13%	-0.42%
TOP 5	93.04%	Expected TOP 5	92.86%	0.18%

VGG16				
Guess T1	2762	Model Size	528 MB	
Guess T5	3547			
Total	3923			
TOP 1	70.41%	Expected TOP 1	71.59%	-1.19%
TOP 5	90.42%	Expected TOP 5	90.38%	0.03%

VGG19				
Guess T1	2802	Model Size	549 MB	
Guess T5	3553			
Total	3923			
TOP 1	71.42%	Expected TOP 1	72.38%	-0.95%
TOP 5	90.57%	Expected TOP 5	90.88%	-0.31%

SqueezeNet 1.1				
Guess T1	2286	Model Size	5 MB	
Guess T5	3173			
Total	3923			
TOP 1	58.27%	Expected TOP 1	58.18%	0.09%
TOP 5	80.88%	Expected TOP 5	80.62%	0.26%

VGG19 BN				
Guess T1	2877	Model Size	549 MB	
Guess T5	3599			
Total	3923			
TOP 1	73.34%	Expected TOP 1	74.22%	-0.88%
TOP 5	91.74%	Expected TOP 5	91.84%	-0.10%

Diff	Winner
-7.88%	PyTorch
-4.69%	PyTorch

Diff	Winner
-6.63%	PyTorch
-4.54%	PyTorch

Diff	Winner
-7.29%	PyTorch
-4.79%	PyTorch

Modelli di Keras

MobileNet				
Guess T1	696	Model Size	16 MB	
Guess T5	877			
Total	1000			
TOP 1	69.60%	Expected TOP 1	70.40%	-0.80%
TOP 5	87.70%	Expected TOP 5	89.50%	-1.80%

Inception V3				
Guess T1	754	Model Size	92 MB	
Guess T5	926			
Total	1000			
TOP 1	75.40%	Expected TOP 1	77.90%	-2.50%
TOP 5	92.60%	Expected TOP 5	93.70%	-1.10%

ResNet152 V2				
Guess T1	690	Model Size	232 MB	
Guess T5	885			
Total	1000			
TOP 1	69.00%	Expected TOP 1	78.00%	-9.00%
TOP 5	88.50%	Expected TOP 5	94.21%	-5.71%

ResNet50 V2				
Guess T1	651	Model Size	98 MB	
Guess T5	866			
Total	1000			
TOP 1	65.10%	Expected TOP 1	76.01%	-10.91%
TOP 5	86.60%	Expected TOP 5	92.82%	-6.22%

Modelli di PyTorch

MobileNetV2				
Guess T1	711	Model Size	14 MB	
Guess T5	909			
Total	1000			
TOP 1	71.10%	Expected TOP 1	71.88%	-0.78%
TOP 5	90.90%	Expected TOP 5	90.27%	0.63%

Inception V3				
Guess T1	781	Model Size	104 MB	
Guess T5	939			
Total	1000			
TOP 1	78.10%	Expected TOP 1	77.29%	0.81%
TOP 5	93.90%	Expected TOP 5	93.45%	0.45%

ResNet152				
Guess T1	774	Model Size	231 MB	
Guess T5	947			
Total	1000			
TOP 1	77.40%	Expected TOP 1	78.31%	-0.91%
TOP 5	94.70%	Expected TOP 5	94.05%	0.65%

AlexNet				
Guess T1	577	Model Size	234 MB	
Guess T5	802			
Total	1000			
TOP 1	57.70%	Expected TOP 1	56.52%	1.18%
TOP 5	80.20%	Expected TOP 5	79.07%	1.13%

Keras VS PyTorch

Diff *	Winner
-1.50%	PyTorch
-3.20%	PyTorch

Diff	Winner
-2.70%	PyTorch
-1.30%	PyTorch

Diff *	Winner
-8.40%	PyTorch
-6.20%	PyTorch

ResNet50				
Guess T1	694	Model Size	98 MB	
Guess T5	897			
Total	1000			
TOP 1	69.40%	Expected TOP 1	74.90%	-5.50%
TOP 5	89.70%	Expected TOP 5	91.20%	-1.50%

VGG16				
Guess T1	631	Model Size	528 MB	
Guess T5	856			
Total	1000			
TOP 1	63.10%	Expected TOP 1	71.30%	-8.20%
TOP 5	85.60%	Expected TOP 5	90.01%	-4.41%

VGG19				
Guess T1	649	Model Size	549 MB	
Guess T5	862			
Total	1000			
TOP 1	64.90%	Expected TOP 1	71.30%	-6.40%
TOP 5	86.20%	Expected TOP 5	90.00%	-3.80%

ResNet50				
Guess T1	763	Model Size	98 MB	
Guess T5	934			
Total	1000			
TOP 1	76.30%	Expected TOP 1	76.13%	0.17%
TOP 5	93.40%	Expected TOP 5	92.86%	0.54%

VGG16				
Guess T1	722	Model Size	528 MB	
Guess T5	910			
Total	1000			
TOP 1	72.20%	Expected TOP 1	71.59%	0.61%
TOP 5	91.00%	Expected TOP 5	90.38%	0.62%

VGG19				
Guess T1	730	Model Size	549 MB	
Guess T5	908			
Total	1000			
TOP 1	73.00%	Expected TOP 1	72.38%	0.62%
TOP 5	90.80%	Expected TOP 5	90.88%	-0.08%

SqueezeNet 1.1				
Guess T1	612	Model Size	5 MB	
Guess T5	817			
Total	1000			
TOP 1	61.20%	Expected TOP 1	58.18%	3.02%
TOP 5	81.70%	Expected TOP 5	80.62%	1.08%

VGG19 BN				
Guess T1	746	Model Size	549 MB	
Guess T5	927			
Total	1000			
TOP 1	74.60%	Expected TOP 1	74.22%	0.38%
TOP 5	92.70%	Expected TOP 5	91.84%	0.86%

Diff	Winner
-6.90%	PyTorch
-3.70%	PyTorch

Diff	Winner
-9.10%	PyTorch
-5.40%	PyTorch

Diff	Winner
-8.10%	PyTorch
-4.60%	PyTorch

TOP 1 AVG	TOP 5 AVG
-10.61%	-8.81%

MobileNet

ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	2676		2284	Guess T1
Guess T5	3480		3220	Guess T5
Total	3923		3923	Total
TOP 1	68.21%	-9.99%	58.22%	TOP 1
TOP 5	88.71%	-6.63%	82.08%	TOP 5

Inception V3

ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	2983		2702	Guess T1
Guess T5	3643		3486	Guess T5
Total	3923		3923	Total
TOP 1	76.04%	-7.16%	68.88%	TOP 1
TOP 5	92.86%	-4.00%	88.86%	TOP 5

ResNet50

ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	2661		2116	Guess T1
Guess T5	3466		3089	Guess T5
Total	3923		3923	Total
TOP 1	67.83%	-13.89%	53.94%	TOP 1
TOP 5	88.35%	-9.61%	78.74%	TOP 5

ResNet152 V2				
ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	2699		2369	Guess T1
Guess T5	3496		3264	Guess T5
Total	3923		3923	Total
TOP 1	68.80%	-8.41%	60.39%	TOP 1
TOP 5	89.12%	-5.91%	83.20%	TOP 5

VGG19				
ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	2516		1982	Guess T1
Guess T5	3365		2934	Guess T5
Total	3923		3923	Total
TOP 1	64.13%	-13.61%	50.52%	TOP 1
TOP 5	85.78%	-10.99%	74.79%	TOP 5

ImageNet Mini	
TOP 1 AVG	TOP 5 AVG
-13.58%	-9.37%

A-Line	
TOP 1 AVG	TOP 5 AVG
-14.60%	-9.99%

MobileNetV2

ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	2809		2319	Guess T1
Guess T5	3524		3240	Guess T5
Total	3923		3923	Total
TOP 1	71.60%	-12.49%	59.11%	TOP 1
TOP 5	89.83%	-7.24%	82.59%	TOP 5

A-Line				
Normal		Vs	GrayScale	
Guess T1	711		588	Guess T1
Guess T5	909		828	Guess T5
Total	1000		1000	Total
TOP 1	71.10%	-12.30%	58.80%	TOP 1
TOP 5	90.90%	-8.10%	82.80%	TOP 5

Inception V3

ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	3015		2757	Guess T1
Guess T5	3651		3509	Guess T5
Total	3923		3923	Total
TOP 1	76.85%	-6.58%	70.28%	TOP 1
TOP 5	93.07%	-3.62%	89.45%	TOP 5

A-Line				
Normal		Vs	GrayScale	
Guess T1	781		693	Guess T1
Guess T5	939		903	Guess T5
Total	1000		1000	Total
TOP 1	78.10%	-8.80%	69.30%	TOP 1
TOP 5	93.90%	-3.60%	90.30%	TOP 5

ResNet152

ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	3001		2682	Guess T1
Guess T5	3678		3517	Guess T5
Total	3923		3923	Total
TOP 1	76.50%	-8.13%	68.37%	TOP 1
TOP 5	93.75%	-4.10%	89.65%	TOP 5

A-Line				
Normal		Vs	GrayScale	
Guess T1	774		673	Guess T1
Guess T5	947		888	Guess T5
Total	1000		1000	Total
TOP 1	77.40%	-10.10%	67.30%	TOP 1
TOP 5	94.70%	-5.90%	88.80%	TOP 5

AlexNet

ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	2209		1383	Guess T1
Guess T5	3099		2315	Guess T5
Total	3923		3923	Total
TOP 1	56.31%	-21.06%	35.25%	TOP 1
TOP 5	79.00%	-19.98%	59.01%	TOP 5

A-Line				
Normal		Vs	GrayScale	
Guess T1	577		349	Guess T1
Guess T5	802		564	Guess T5
Total	1000		1000	Total
TOP 1	57.70%	-22.80%	34.90%	TOP 1
TOP 5	80.20%	-23.80%	56.40%	TOP 5

ResNet50

ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	2970		2525	Guess T1
Guess T5	3650		3419	Guess T5
Total	3923		3923	Total
TOP 1	75.71%	-11.34%	64.36%	TOP 1
TOP 5	93.04%	-5.89%	87.15%	TOP 5

A-Line				
Normal		Vs	GrayScale	
Guess T1	763		644	Guess T1
Guess T5	934		863	Guess T5
Total	1000		1000	Total
TOP 1	76.30%	-11.90%	64.40%	TOP 1
TOP 5	93.40%	-7.10%	86.30%	TOP 5

VGG16

ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	2762		2288	Guess T1
Guess T5	3547		3233	Guess T5
Total	3923		3923	Total
TOP 1	70.41%	-12.08%	58.32%	TOP 1
TOP 5	90.42%	-8.00%	82.41%	TOP 5

A-Line				
Normal		Vs	GrayScale	
Guess T1	722		552	Guess T1
Guess T5	910		812	Guess T5
Total	1000		1000	Total
TOP 1	72.20%	-17.00%	55.20%	TOP 1
TOP 5	91.00%	-9.80%	81.20%	TOP 5

VGG19

ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	2802		2365	Guess T1
Guess T5	3553		3263	Guess T5
Total	3923		3923	Total
TOP 1	71.42%	-11.14%	60.29%	TOP 1
TOP 5	90.57%	-7.39%	83.18%	TOP 5

A-Line				
Normal		Vs	GrayScale	
Guess T1	730		564	Guess T1
Guess T5	908		821	Guess T5
Total	1000		1000	Total
TOP 1	73.00%	-16.60%	56.40%	TOP 1
TOP 5	90.80%	-8.70%	82.10%	TOP 5

SqueezeNet 1.1

ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	2809		1630	Guess T1
Guess T5	3524		2620	Guess T5
Total	3923		3923	Total
TOP 1	71.60%	-30.05%	41.55%	TOP 1
TOP 5	89.83%	-23.04%	66.79%	TOP 5

A-Line				
Normal		Vs	GrayScale	
Guess T1	612		406	Guess T1
Guess T5	817		658	Guess T5
Total	1000		1000	Total
TOP 1	61.20%	-20.60%	40.60%	TOP 1
TOP 5	81.70%	-15.90%	65.80%	TOP 5

VGG19 BN

ImageNet Mini				
Normal		Vs	GrayScale	
Guess T1	2877		2512	Guess T1
Guess T5	3599		3399	Guess T5
Total	3923		3923	Total
TOP 1	73.34%	-9.30%	64.03%	TOP 1
TOP 5	91.74%	-5.10%	86.64%	TOP 5

A-Line				
Normal		Vs	GrayScale	
Guess T1	746		633	Guess T1
Guess T5	927		857	Guess T5
Total	1000		1000	Total
TOP 1	74.60%	-11.30%	63.30%	TOP 1
TOP 5	92.70%	-7.00%	85.70%	TOP 5