

#1 1DConv(16:32)batch 512

Neural Network settings

Training settings

Number of training cycles 200

Learning rate 0.005

Minimum confidence rating 0.60

Audio training options

Data augmentation

Neural network architecture

Architecture presets 1D Convolutional (Default) 2D Convolutional

Input layer (598 features)

Reshape layer (13 columns)

2D conv / pool layer (16 neurons, 3 kernel size, 1 layer)

Dropout (rate 0.5)

2D conv / pool layer (32 neurons, 3 kernel size, 1 layer)

Dropout (rate 0.5)

Flatten layer

Add an extra layer

Output layer (18 features)

Start training

Training output

Model

Model version: Quantized (int8)

Last training performance (validation set)

ACCURACY 56.3%

LOSS 1.50


Confusion matrix (validation set)

	_N	_U	BA	FO	FO	FO	GO	LEFT	NO	OFF	ON	ONE	RIG	ST	TH	TWO	VIS	YES
_NOISE	99.2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.4%	0%	0%	0.4%	0%
_UNKNOWN	13.9%	5.8%	2.3%	7.7%	1.2%	0.8%	5.0%	1.5%	6.2%	16.2%	10.0%	2.3%	1.9%	4.6%	6.2%	10.4%	3.5%	0.4%
BACKWARD	5.2%	3.0%	47.6%	3.4%	1.7%	6.0%	0.9%	5.2%	4.3%	2.1%	9.0%	1.7%	1.3%	1.7%	1.7%	1.3%	1.3%	2.6%
FOLLOW	5.2%	0%	0%	57.5%	3.2%	2.4%	1.6%	0%	0%	15.9%	9.5%	0%	0%	2.0%	0%	2.4%	0.4%	0%
FORWARD	5.3%	0.4%	0.8%	23.5%	38.1%	12.6%	0.4%	0%	1.2%	6.5%	8.5%	0.4%	0.4%	0%	0.4%	1.2%	0.4%	0%
FOUR	4.5%	0.5%	0%	24.1%	8.6%	40.5%	0.5%	0%	1.4%	10.9%	5%	0.5%	0%	0.9%	0.5%	1.8%	0%	0.5%
GO	5.6%	0.9%	0.9%	20.7%	0.9%	3.0%	28.4%	0%	17.7%	9.1%	2.2%	0%	0%	3.0%	0%	5.2%	1.7%	0.9%
LEFT	3.8%	2.1%	7.2%	1.3%	0%	3.0%	1.3%	49.4%	4.2%	8.9%	0.4%	1.3%	1.7%	2.1%	0%	1.3%	1.3%	11.0%
NO	5.1%	0.4%	0.8%	1.6%	0%	0.4%	11.8%	1.2%	63.1%	5.5%	0.4%	0%	0%	2.0%	0%	2.7%	1.6%	3.5%
OFF	4.3%	0.4%	0%	8.1%	0.9%	1.7%	0%	0.9%	0%	79.6%	3.0%	0%	0%	1.3%	0%	0%	0%	0%
ON	3.3%	0.9%	0.5%	2.8%	1.4%	0.5%	0.5%	0%	0%	23.6%	63.7%	0.5%	0%	0.9%	0%	1.4%	0%	0%
ONE	1.7%	2.1%	3.4%	2.5%	1.3%	0.4%	0.4%	4.2%	0.8%	7.6%	18.1%	52.1%	2.1%	1.7%	0%	0.4%	0.4%	0.8%
RIGHT	4.5%	2.4%	3.7%	2.4%	0%	1.6%	0.4%	8.1%	1.6%	2.0%	6.1%	4.9%	52.4%	0%	8.9%	0.4%	0.4%	0%
STOP	7.9%	0.4%	0%	5.3%	0.4%	0.9%	0.4%	0.4%	0.4%	20.3%	0%	0%	0%	61.7%	0%	1.3%	0.4%	0%
THREE	5.5%	0.9%	0%	1.3%	0.4%	0%	0%	0.4%	0%	0%	3.4%	0%	2.1%	0.4%	71.1%	12.3%	1.7%	0.4%
TWO	13.5%	0%	0%	6.6%	0.8%	1.2%	3.3%	0.4%	2.0%	0.4%	0.8%	0%	0%	1.2%	0.8%	68.0%	0.8%	0%
VISUAL	6.7%	0.8%	0%	1.6%	0%	0%	0%	0.4%	3.2%	0.4%	0.4%	0.4%	0%	1.2%	1.2%	9.1%	73.4%	1.2%
YES	10.5%	0.4%	0.8%	0%	0%	0.8%	2.5%	10.5%	8.4%	0%	0%	0.4%	0%	1.3%	0%	2.1%	2.1%	59.9%
F1 SCORE	0.66	0.10	0.56	0.44	0.48	0.45	0.36	0.54	0.60	0.52	0.51	0.63	0.65	0.66	0.74	0.61	0.78	0.66


Feature explorer (full training set)

- \_noise - correct
- \_unknown - correct
- backward - correct
- follow - correct
- forward - correct
- four - correct
- go - correct
- left - correct
- no - correct
- off - correct
- on - correct
- one - correct
- right - correct


On-device performance ⓘ



INFERRING TIME  
123 ms.

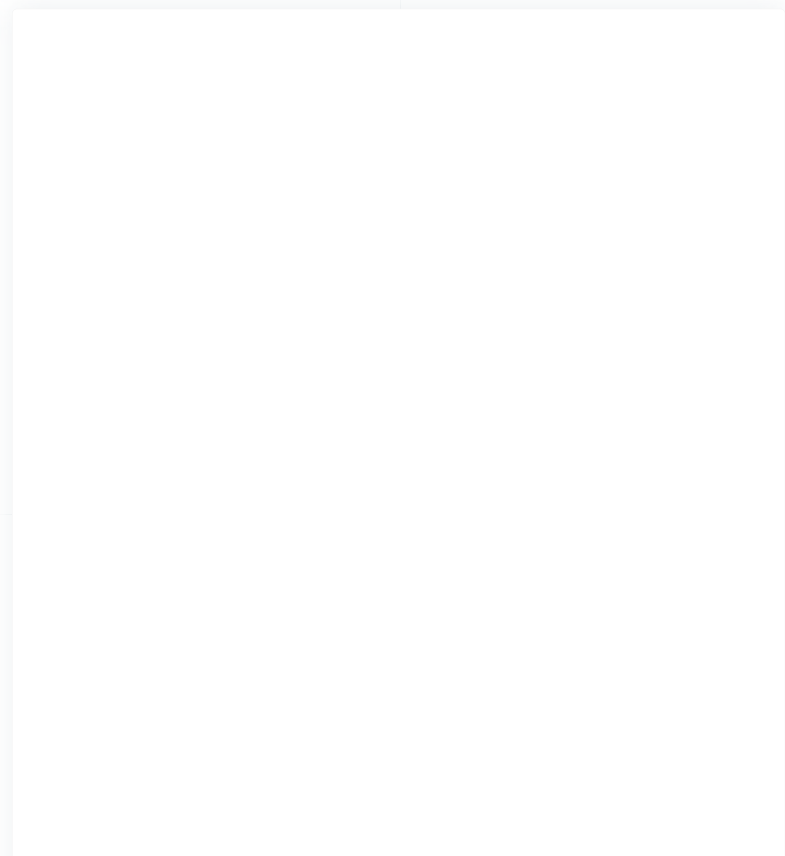



PEAK RAM USAGE  
14.5K



ROM USAGE  
60.6K

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