

EDGE IMPULSE

Training data | Test data | Data explorer | Upload data | Export data

Did you know? You can capture data from any device or development board, or upload your existing datasets - [Show options](#)

DATA COLLECTED: 12m 47s

TRAIN / TEST SPLIT: 84% / 16%

Record new data

No devices connected to the remote management API.

RAW DATA

Click on a sample to load...

Collected data

SAMPLE NAME	LABEL	ADDED	LENGTH
updown.1.cbor.1q53q102	updown	Dec 23 2020, 21:53:16	5s
idle.1.cbor.1q53ose9	idle	Dec 23 2020, 21:52:39	10s
wave.9.cbor.1q53osc8	wave	Dec 23 2020, 21:52:39	10s
updown.2.cbor.1q53osc9	updown	Dec 23 2020, 21:52:39	5s
snake.16.cbor.1q53osc3	snake	Dec 23 2020, 21:52:39	10s
idle.16.cbor.1q53osc8a	idle	Dec 23 2020, 21:52:39	10s
wave.31.cbor.1q53osc3	wave	Dec 23 2020, 21:52:39	10s
updown.12.cbor.1q53oscq	updown	Dec 23 2020, 21:52:39	10s
updown.13.cbor.1q53osc3	updown	Dec 23 2020, 21:52:39	10s
wave.14.cbor.1q53osc2	wave	Dec 23 2020, 21:52:39	10s

EDGE IMPULSE

This lists all test data. You can manage this data through Data acquisition.

Test data

Set the 'expected outcome' for each sample to the desired outcome to automatically score the impulse.

SAMPLE NAME	EXPECTED OUTCOME	LENGTH	ACCURACY	RESULT
testing.2fg7fik	testing	5s	38	idle
testing.2ff4qk...	testing	5s	38	idle
idle.3.cbor.1q...	idle	10s	100%	100 idle
updown.2.cbo...	updown	10s	100%	100 updown
snake.1.cbor...	snake	10s	100%	100 snake
updown.3.cbo...	updown	10s	100%	100 updown
wave.1.cbor.1...	wave	10s	100%	100 wave
wave.2.cbor.1...	wave	10s	100%	100 wave
snake.2.cbor...	snake	10s	100%	100 snake

Model testing output

Model testing results

ACCURACY: 100.00%

	IDLE	SNAKE	UPDOWN	WAVE	ANOMALY	UNCERTAIN
IDLE	100%	0%	0%	0%	0%	0%
SNAKE	0%	100%	0%	0%	0%	0%
UPDOWN	0%	0%	100%	0%	0%	0%
WAVE	0%	0%	0%	100%	0%	0%
ANOMALY	0%	0%	0%	0%	100%	-
F1 SCORE	1.00	1.00	1.00	1.00	1.00	

Feature explorer

Loading...

F1 score

CONTINUOUS MOTION RECOGNITION

EDGE IMPULSE

Dashboard
Devices
Data sources
Data acquisition
Impulse design
Create impulse
MFCC
NN Classifier
EON Tuner
Retrain model
Live classification
Model testing
Performance calibration
Versioning
Deployment

Select optimizations (optional)

Model optimizations can increase on-device performance but may reduce accuracy. Click below to analyze optimizations and see the recommended choices for your target. Or, just click Build to use the currently selected options.

Enable EON™ Compiler

Same accuracy, up to 50% less memory. Open source.

Available optimizations for NN Classifier

Quantized (int8)

Currently selected

This optimization is recommended for best performance.

RAM USAGE
5,1K
LATENCY
4 ms
FLASH USAGE
28,8K
ACCURACY
36.14%

CONFUSION MATRIX

16.6	67.7	15.7
4.9	79.5	15.2

Unoptimized (float32)

Click to select

RAM USAGE
8,4K
LATENCY
42 ms
FLASH USAGE
22,8K
ACCURACY
36.14%

CONFUSION MATRIX

16.2	68.4	15.4
5.3	80.7	14.0

Estimate for Cortex-M47 80MHz.

Build

Build output

Generating features for MFCC...
Not generating new features: features already generated and no options or files have changed.
No new features, skipping...
Generating features for MFCC OK
Reducing dimensions for MFCC...
No new features, skipping...
Reducing dimensions for MFCC OK
Classifying data for NN Classifier...
Copying features from processing blocks...
Copying features from DSP block...
Copying features from processing blocks OK
Classifying data for float32 model...
Classifying data for int8 model...
Scheduling job in cluster...
Scheduling job in cluster...
Container image pulled!
Container image pulled!
Job started
Job started
Classifying data for NN Classifier OK
Job completed

DISCO-L475VG-IDT0..._bin

midpart1-v2.zip

Tamini glider

EDGE IMPULSE

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This lists all test data. You can manage this data through Data acquisition.

Test data

Classify all

Set the 'expected outcome' for each sample to the desired outcome to automatically score the impulse.

SAMPLE NAME	EXPECTED OUTCOME	LENGTH	ACCURACY	RESULT
testing.3i4vpj...	testing	1s		1 noise2
noise1.3i4v9r63	noise1	10s		55 noise2, 20 noise, 16 u...
noise2.3i4v97...	noise2	10s	82%	75 noise2, 9 uncertain, 7...
noise2.3i4v79ks	noise2	10s	79%	72 noise2, 13 uncertain, ...
noise2.3i4v38ec	noise2	5s	75%	31 noise2, 10 uncertain
noise2.3i4v2ga8	noise2	5s	85%	35 noise2, 5 uncertain, 1...
noise.3i4u314m	noise	1m 0s	16%	404 noise2, 96 noise, 91 ...

Model testing output

Model testing results

ACCURACY

36.14%

	NOISE	NOISE2	UNCERTAIN
NOISE	16.2%	66.9%	15.4%
NOISE2	5.3%	80.7%	14.0%
F1 SCORE	0.27	0.48	

Feature explorer

noise - correct

noise2 - correct

noise - incorrect

noise2 - incorrect

noise1

testing

DISCO-L475VG-IDT0..._bin

midpart1-v2.zip

Tamini glider

RECOGNIZE FROUM AUDIO

EDGE IMPULSE

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Neural Network settings

Training settings

Number of training cycles 300

Learning rate 0.005

Validation set size 30 %

Auto-balance dataset ☐

Audio training options

Data augmentation ☐

Neural network architecture

Architecture presets 1D Convolutional (Default) 2D Convolutional

Input layer (650 features)

Reshape layer (13 columns)

1D conv / pool layer (8 neurons, 3 kernel size, 1 layer)

Training output

Model version: Quantized (int8)

Last training performance (validation set)

ACCURACY 68.2%

LOSS 0.58

Confusion matrix (validation set)

	NOISE1	NOISE2
NOISE1	47.2%	52.8%
NOISE2	0.4%	99.6%
F1 SCORE	0.64	0.71

Data explorer (full training set)

noise - correct
noise2 - correct
noise - incorrect
noise2 - incorrect

DISCO-L475VG-IOIO...bin midpart1-v2.zip

30°C Bulutlu 19:34 18.11.2022

RESPONDING VOICE

EDGE IMPULSE

YAGIZ / MIDPART1

Training data | Test data | Data explorer | Upload data | Export data

Did you know? You can capture data from any device or development board, or upload your existing datasets - [Show options](#)

DATA COLLECTED: 40m 22s

TRAIN / TEST SPLIT: 80% / 20%

Record new data [Connect using WebUSB](#)

No devices connected to the remote management API.

RAW DATA

Click on a sample to load...

SAMPLE NAME	LABEL	ADDED	LENGTH
noise.white_noise.wav.470...	noise	Today, 17:14:45	1s
noise.white_noise.wav.310...	noise	Today, 17:14:45	1s
noise.white_noise.wav.220...	noise	Today, 17:14:45	1s
noise.white_noise.wav.140...	noise	Today, 17:14:45	1s
noise.white_noise.wav.3000	noise	Today, 17:14:45	1s
noise.running_tap.wav.60...	noise	Today, 17:14:45	1s
noise.running_tap.wav.50...	noise	Today, 17:14:45	1s
noise.running_tap.wav.38...	noise	Today, 17:14:45	1s

midpart1-v2.zip

19°C Bulutur

EDGE IMPULSE

midpart1-v2.zip

Deployment

Select optimizations (optional)

Model optimizations can increase on-device performance but may reduce accuracy. Click below to analyze optimizations and see the recommended choices for your target. Or, just click Build to use the currently selected options.

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Available optimizations for NN Classifier

	RAM USAGE	LATENCY	CONFUSION MATRIX												
Quantized (int8) ★	5,1K	2 ms	<table border="1"><tr><td>0</td><td>0</td><td>100</td><td>0</td></tr><tr><td>0</td><td>90.5</td><td>5.2</td><td>2.3</td></tr><tr><td>0</td><td>5.2</td><td>90.5</td><td>2.3</td></tr></table>	0	0	100	0	0	90.5	5.2	2.3	0	5.2	90.5	2.3
0	0	100	0												
0	90.5	5.2	2.3												
0	5.2	90.5	2.3												
Unoptimized (float32)	8,4K	21 ms	<table border="1"><tr><td>0</td><td>0</td><td>100</td><td>0</td></tr><tr><td>0</td><td>90.5</td><td>5.2</td><td>2.6</td></tr><tr><td>0</td><td>4.9</td><td>90.5</td><td>4.2</td></tr></table>	0	0	100	0	0	90.5	5.2	2.6	0	4.9	90.5	4.2
0	0	100	0												
0	90.5	5.2	2.6												
0	4.9	90.5	4.2												

Estimate for ST IoT Discovery Kit (Cortex M4F B0M14).

[Build](#)

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