Deploy your impulse

You can deploy your impulse to any device. This makes the model run without an internet connection, minimizes latency, and runs with minimal power consumption. Read more.

Create library

Turn your impulse into optimized source code that you can run on any device.

C++ library

Arduino library

Cube.MX CMSIS-PACK

WebAssembly

TensorRT library

Build firmware

Or get a ready-to-go binary for your development board that includes your impulse.

ST IoT Discovery Kit

Arduino Nano 33 BLE Sense

Eta Compute ECM3532 AI Sensor

Eta Compute ECM3532 AI Vision

SiLabs Thunderboard Sense 2

Himax WE-I Plus

Nordic nRF52840 DK + IKS02A1

Nordic nRF5340 DK + IKS02A1

Linux boards

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 MFCC

Quantized (int8) ⭐

Currently selected

This optimization is recommended for best performance.

RAM USAGE
16.0K

LATENCY
215 ms

ROM USAGE
80.5K

ACCURACY
78.19%

CONFUSION MATRIX

92.3	0	0	0	0	0	0	0	0	0	0.5	0	0.3	0	6.8
2.7	**36.2**	1	3.8	3.5	1.2	1.8	0.7	3.7	4.3	2.5	2.3	3.2	2.2	0.7	**30.3**
1.2	1.5	**84.2**	0.2	0.2	0	0.7	0	0.3	0.2	0.7	0	1.5	0.7	0	8.8
2	0.7	0	**77**	0	1.7	0	4.3	0	0	0	1.3	0	0	0	13
0.7	2	0.2	0	**83.3**	0.2	0	0	1	2.3	0.2	0	0.2	0	0	10
0.2	1	0	1.3	1.8	**73.3**	0	3.5	1	0.3	0	0.8	0.7	0	0	16
0.8	1	1.3	0	0.2	0	**80.2**	0.2	0.2	0	0.8	0.2	0	0.2	2.5	12.5
0.7	0.5	0	1.5	0	5.7	0.7	**71.8**	0	0	0	0.7	0.2	0.8	0.2	17.3
1.2	0.2	0	0	0.5	0.3	0	0	**82**	1.5	0	0.5	4	0	0	9.8
0.3	0.3	0.3	0	1.7	0	0	0.2	6.3	**78.8**	0	0.2	0.7	0	0	11.2
1.5	4	0.7	0.2	0.3	0	2.3	0.2	0	0.3	**78.7**	0	0	0.3	0	11.5
0.7	0.3	0	0.7	0.2	0.2	0.2	0	1.3	0	0	**84.8**	2.7	0	0	9
1	0.3	0	0	0.3	0	0	0	6.7	1.7	0	0.3	**75.3**	0	0	14.3
1.2	1.8	0.2	0	0	0	0.2	0	0.3	0	0.2	0.8	0	**86.7**	0.2	8.5
1.8	0	0	0	0	0	2.3	0.5	0	0	0.2	0	0	0.3	**86.2**	8.7

Unoptimized (float32)

Click to select

RAM USAGE
33.5K

LATENCY
1,012 ms

ROM USAGE
196.5K

ACCURACY
78.48%

CONFUSION MATRIX

92.8	0	0.2	0	0	0	0	0	0	0	0.3	0	0.3	0	6.3
2.7	**35.8**	1	3.5	3.3	1.2	1.7	0.8	3.5	5	2.7	2.3	3.3	2	0.7	**30.5**
1.2	1.3	**84.2**	0.2	0.3	0	0.7	0	0.3	0.2	0.8	0	1.5	0.8	0	8.5
1.7	1	0	**76.3**	0	1.3	0	4	0	0	0	1.3	0.3	0	0.3	13.7
0.7	1.7	0.2	0	**83.7**	0.2	0	0	1	2.2	0.2	0	0.2	0	0	10.2
0.2	1	0	1.3	1.7	**73.7**	0	3.7	0.8	0.2	0	1	0.7	0	0	15.8
0.8	0.5	1.3	0	0	0	**80.5**	0.2	0.2	0	1	0.2	0	0.2	2.7	12.5
0.7	0.7	0	1	0	5.8	0.5	**72.3**	0	0.2	0	0.7	0	0.8	0.2	17.2
1	0	0	0	0.7	0.3	0	0	**81.8**	1.5	0	0.5	4.5	0	0	9.7
0.3	0.2	0.3	0	1.7	0	0	0.2	6.5	**78.7**	0	0.2	1	0	0	11
1.3	3.5	0.7	0	0.3	0	2.2	0.2	0	0.3	**80**	0	0	0.3	0	11.2
0.7	0.3	0	0.7	0.2	0.3	0.2	0	1.5	0	0	**84.3**	2.5	0	0	9.3
1	0.3	0	0	0.3	0.3	0	0	7	1	0.3	0.3	**78**	0	0	11.3
1	1.8	0.3	0	0	0	0.2	0	0.3	0	0.2	0.7	0	**87.2**	0.2	8.2
1.8	0	0	0	0	0	2.3	0.5	0	0	0	0	0	0.5	**86.5**	8.3

Estimate for Cortex-M4F 80MHz (ST IoT Discovery Kit)

Build

Build output

```
Creating job... OK (ID: 771364)

Writing templates OK

Scheduling job in cluster...
Job started
Compiling EON model...
Compiling EON model OK

Removing clutter...
Removing clutter OK

Copying output...
Copying output OK

Job started
Creating archive...
Creating archive OK

Job completed
```