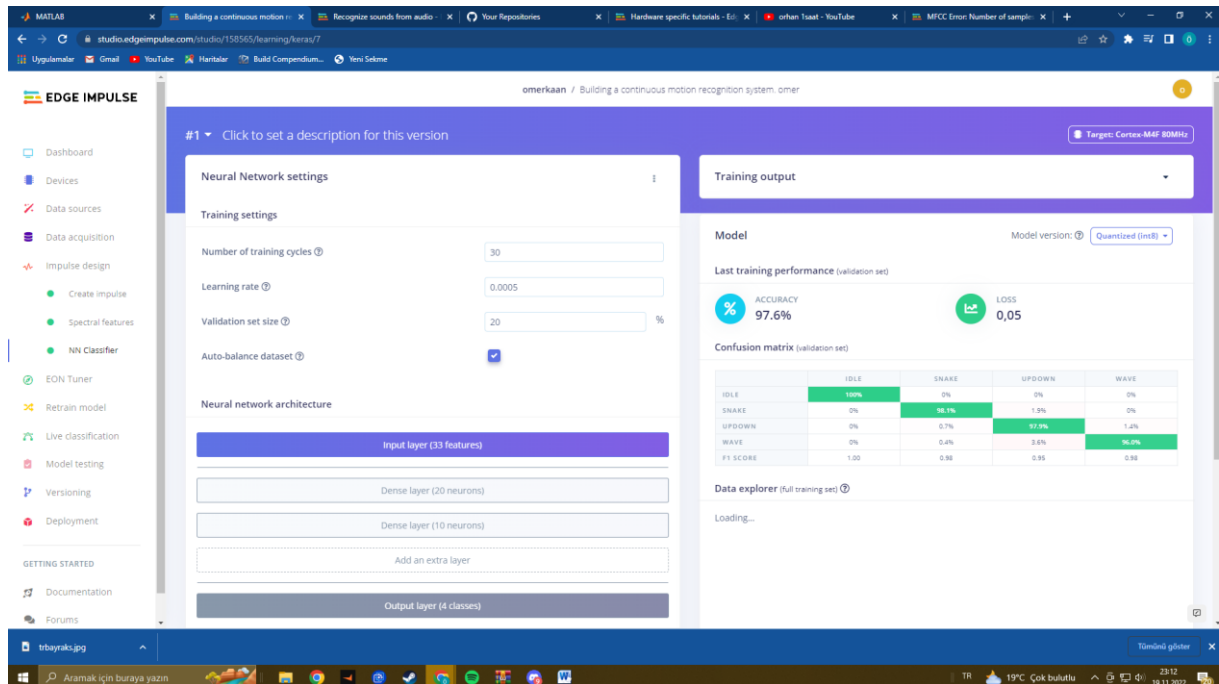
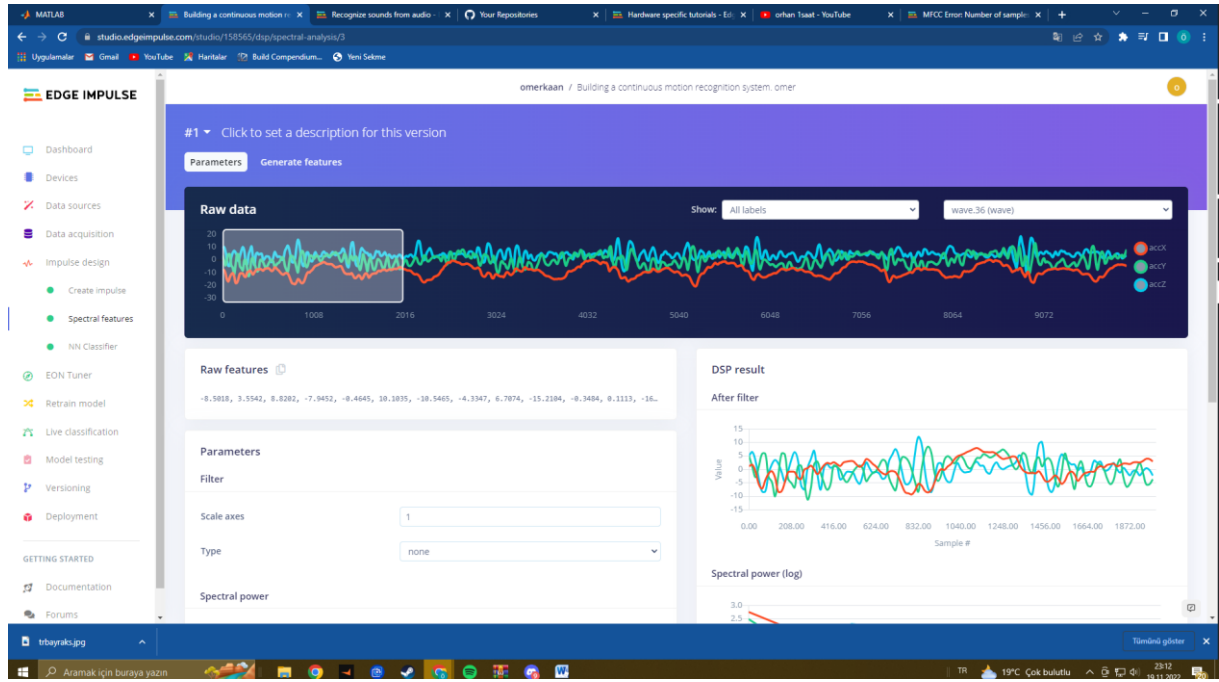


1-)

The screenshot shows the Edge Impulse Studio interface for a project named "omerkaan / Building a continuous motion recognition system. omer". The left sidebar contains navigation links: Dashboard, Devices, Data sources, Data acquisition, Impulse design (with sub-links: Create impulse, Spectral features, NN Classifier), EON Tuner, Retrain model, Live classification, Model testing, Versioning, Deployment, GETTING STARTED, Documentation, and Forums. The main content area has tabs for "Project info", "Keys", and "Export". Below the project title, it says "This is your Edge Impulse project. From here you acquire new training data, design impulses and train models." There are buttons for "ACCELEROMETER" and "New tag". A section titled "About this project" includes an "Add README" button. Below that, a progress bar shows "Creating your first impulse (100% complete)". The "Acquire data" section explains that every Machine Learning project starts with data and provides a link to "LET'S COLLECT SOME DATA". The "Design an impulse" section explains that the model is trained on previously unseen data and provides links for "GETTING STARTED: CONTINUOUS MOTION RECOGNITION", "GETTING STARTED: RESPONDING TO YOUR VOICE", and "GETTING STARTED: ADDING SIGHT TO YOUR SENSORS". On the right, a "Sharing" section indicates the project is private with a "Make this project public" button. A "Summary" section shows "1 DEVICES CONNECTED" and "16m 56s DATA COLLECTED". At the bottom, it shows "Collaborators (1/4)".

This screenshot shows the "Create impulse" workflow in the Edge Impulse Studio. The top bar displays the project name "omerkaan / Building a continuous motion recognition system. omer". Below the top bar, a text box states: "An impulse takes raw data, uses signal processing to extract features, and then uses a learning block to classify new data." The workflow is divided into four main stages: 1. "Time series data" (red box) with input axes (accX, accY, accZ), window size (2000 ms), window increase (200 ms), frequency (62.5 Hz), and zero-pad data (checked). 2. "Spectral Analysis" (light blue box) with name "Spectral features" and input axes (accX, accY, accZ). 3. "Classification (Keras)" (purple box) with name "NN Classifier", input features (Spectral features), and output features (4 (idle, snake, updown, wave)). 4. "Output features" (green box) showing the final output features. A "Save impulse" button is located at the bottom right. The left sidebar is the same as in the first screenshot. The bottom status bar shows the user's name "tbyayrak.jpg" and the time "23:11 10.11.2022".



2-)

The screenshot shows the Edge Impulse Studio web interface. The browser tabs include MATLAB, Responding to your voice omer, Recognize sounds from audio, Your Repositories, Hardware specific tutorials - Ed, orhan Isaat - YouTube, and MCCC Error Number of sampli. The URL bar shows studio.edgeimpulse.com/studio/158466. The left sidebar contains a navigation menu with options: Dashboard, Devices, Data sources, Data acquisition, Impulse design (with sub-items: Create impulse, motionomer, NN Classifier), EON Tuner, Retrain model, Live classification, Model testing, Performance calibration, Versioning, and Deployment. The main content area has a header 'omerkaan / Responding to your voice omer' and a sub-header 'This is your Edge Impulse project. From here you acquire new training data, design impulses and train models.' Below this is a 'KEYWORD SPOTTING' tag and a '+ New tag' button. The 'About this project' section has an 'Add README' button. The 'Creating your first impulse (100% complete)' section shows a progress bar and two main steps: 'Acquire data' (with a 'LET'S COLLECT SOME DATA' button) and 'Design an impulse' (with sub-steps: 'GETTING STARTED: CONTINUOUS MOTION RECOGNITION', 'GETTING STARTED: RESPONDING TO YOUR VOICE', and 'GETTING STARTED: ADDING SIGHT TO YOUR SENSORS'). The right sidebar shows 'Sharing' (project is private, 'Make this project public' button), 'Summary' (1 device connected, 12m 40s data collected), and 'Collaborators (1/4)' (omerkaan, owner).

3-)

The screenshot shows the Edge Impulse Studio web interface for a different project. The browser tabs are the same as in the previous screenshot. The URL bar shows studio.edgeimpulse.com/studio/158466. The left sidebar is identical. The main content area has a header 'omerkaan / Recognize sounds from audio omer' and the same sub-header. The 'KEYWORD SPOTTING' tag and '+ New tag' button are present. The 'About this project' section has an 'Add README' button. The 'Creating your first impulse (100% complete)' section shows the same progress bar and steps as the previous screenshot. The right sidebar shows 'Sharing' (project is private, 'Make this project public' button), 'Summary' (1 device connected, 16m 41s data collected), and 'Collaborators (1/4)' (omerkaan, owner).

MATLAB

studio.edgeimpulse.com/studio/158466/create-impulse

EDGE IMPULSE

omeraan / Recognize sounds from audio omer

An impulse takes raw data, uses signal processing to extract features, and then uses a learning block to classify new data.

Time series data

Input axes: audio

Window size: 1000 ms

Window increase: 500 ms

Frequency (Hz): 16000

Zero-pad data: ☒

Audio (MFE)

Name: motionomer

Input axes (1): ☒ audio

Classification (Keras)

Name: NN Classifier

Input features: ☒ motionomer

Output features: 2 (faucet, noise)

Output features

2 (faucet, noise)

Save Impulse

GETTING STARTED

Documentation

tbayrak.jpg

Aramak için buraya yazın

TR 19°C Çok bulutlu 23:27 16.11.2022

MATLAB

studio.edgeimpulse.com/studio/158466/dsp/mfe/3

EDGE IMPULSE

#1 Click to set a description for this version

Parameters Generate features

Raw data

Show: All labels faucet:2v1m1qlu (faucet)

Raw features

796, 628, 567, 545, 558, 567, 553, 587, 549, 565, 591, 537, 334, 582, 549, 531, 449, 620, 793, 764, 1043, 111...

Parameters

Mel-filterbank energy features

Frame length: 0.02

Frame stride: 0.01

Filter number: 40

DSP result

Mel Filterbank Energies

Processed features

8000
6345
5005
3919
3041
2329
1753
1286
908
602
355
300

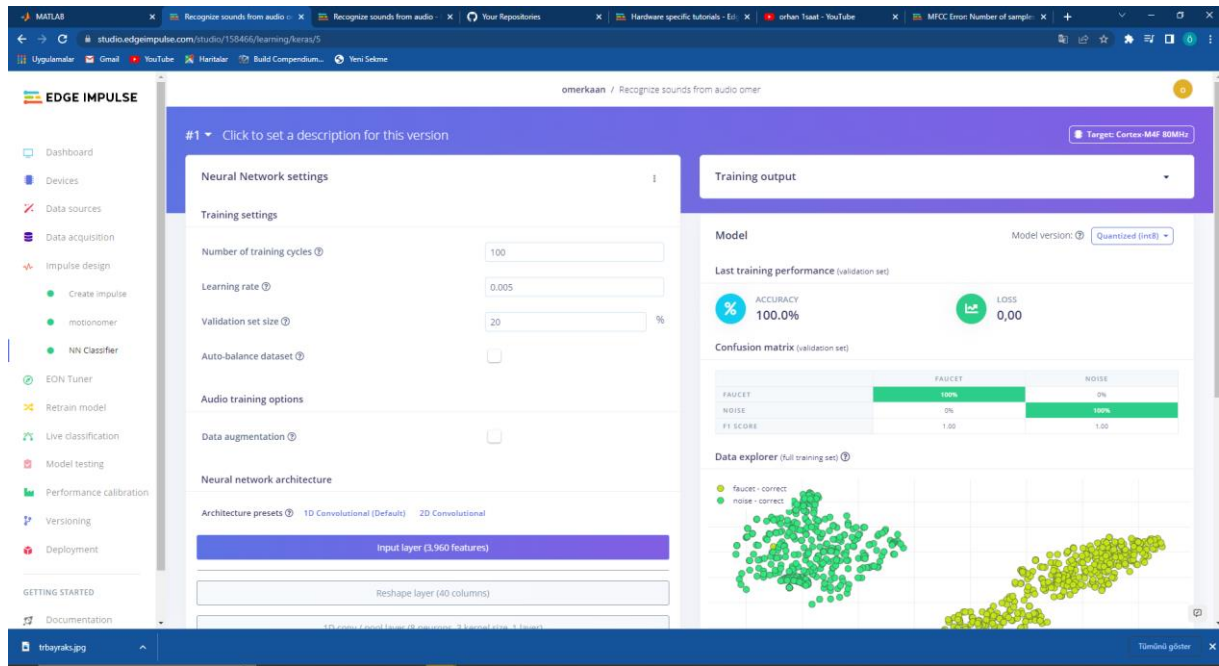
0.0 0.11 0.22 0.34 0.45 0.56 0.67 0.79 0.9 1.01

Time [sec]

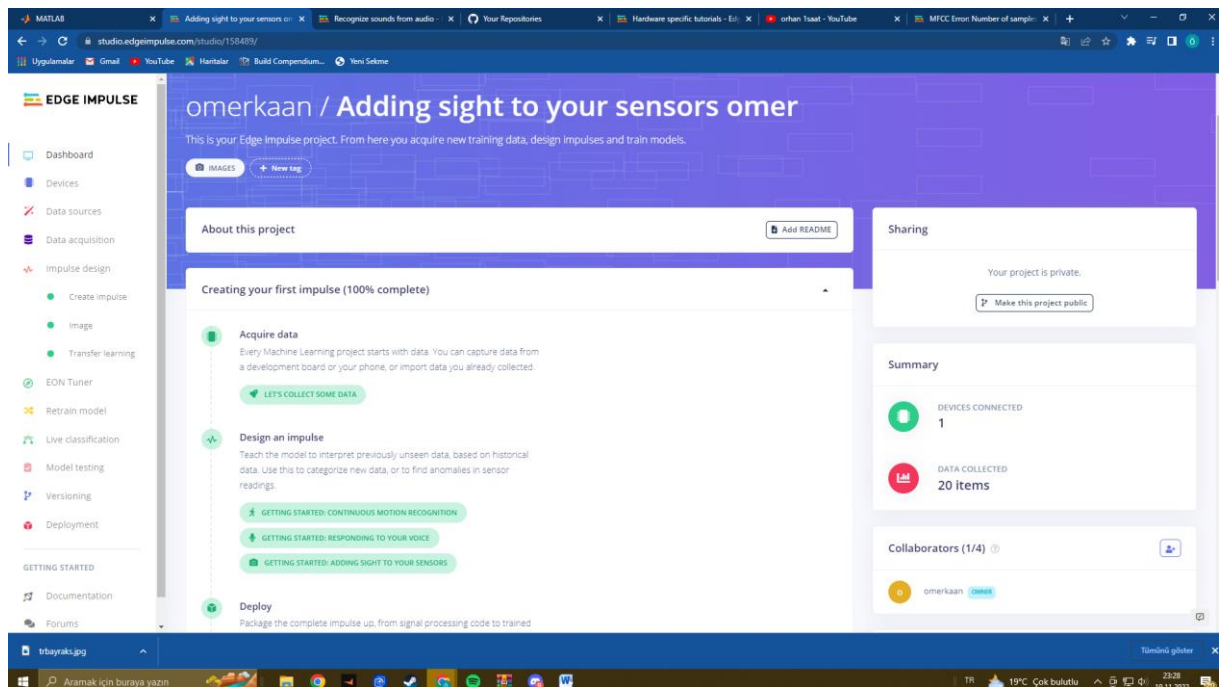
tbayrak.jpg

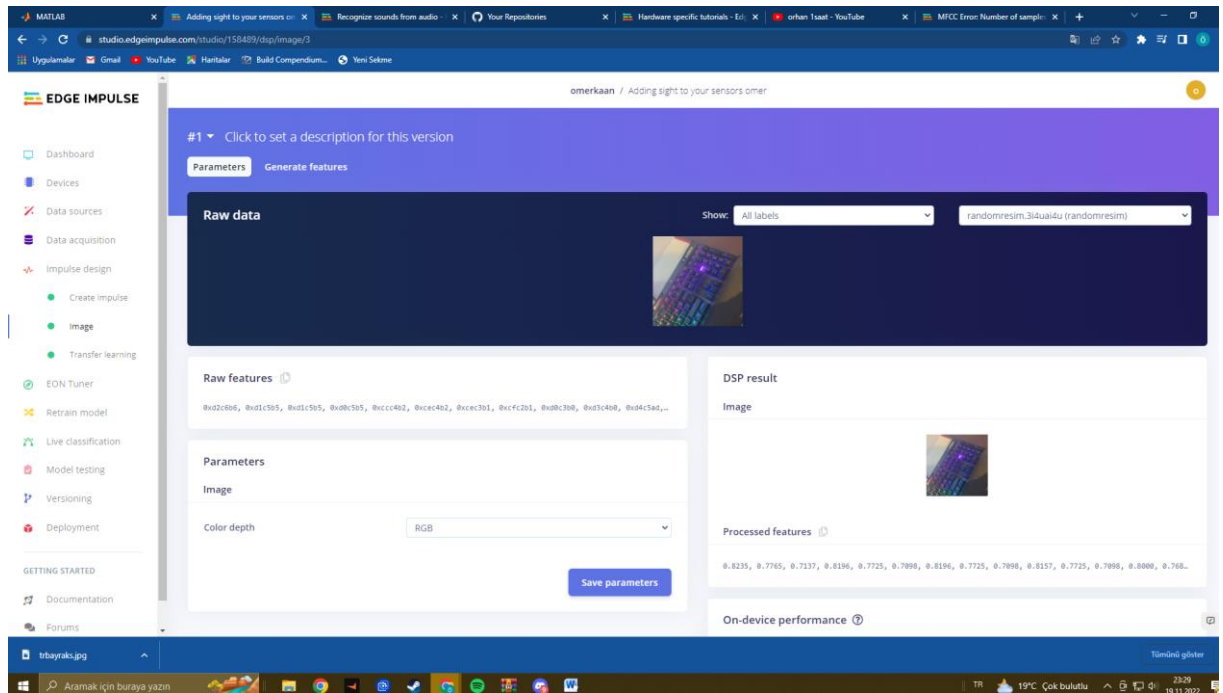
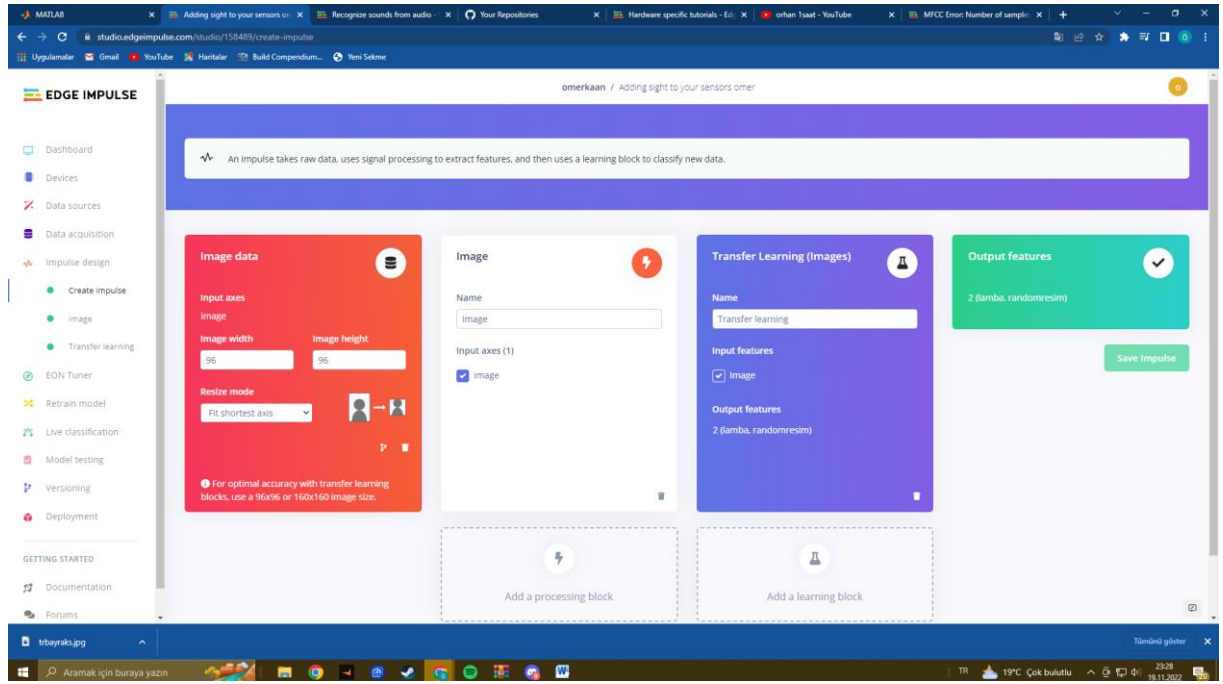
Aramak için buraya yazın

TR 19°C Çok bulutlu 23:27 16.11.2022



4-)





MATLAB x Adding sight to your sensors omer / Recognize sounds from audio x Your Repositories x Hardware specific tutorials - Ed x orhan Tsat - YouTube x MFCC Error Number of sample x +

studio.edgeimpulse.com/studio/158489/learning/transfer-image/5

Uygulamalar Gmail YouTube Haritalar Build Compendium... Yeni Sekme

EDGE IMPULSE

Dashboard Devices Data sources Data acquisition Impulse design Create impulse Image Transfer learning EON Tuner Retrain model Live classification Model testing Versioning Deployment GETTING STARTED Documentation Forums

omerkaan / Adding sight to your sensors omer

#1 Click to set a description for this version

Neural Network settings

Training settings

Number of training cycles 20

Learning rate 0.0005

Validation set size 20 %

Auto-balance dataset

Data augmentation

Neural network architecture

Input layer (27,648 features)

MobileNetV2 56x56 0.35 (final layer: 16 neurons, 0.1 dropout)

Choose a different model

Training output

Model version: Quantized (int8)

Last training performance (validation set)

ACCURACY 75.0%

LOSS 0.31

Confusion matrix (validation set)

	LAMBA	RANDOMRESIM
LAMBA	86%	0%
RANDOMRESIM	0%	100%
F1 SCORE	0.87	0.80

Data explorer (full training set)

lamba - correct
randomresim - correct
lamba - incorrect

23:29 19°C Çok bulutlu 18.11.2022

5-)

MATLAB x Counting objects using FOMO x Recognize sounds from audio x Your Repositories x Hardware specific tutorials - Ed x orhan Tsat - YouTube x MFCC Error Number of sample x +

studio.edgeimpulse.com/studio/158500/

Uygulamalar Gmail YouTube Haritalar Build Compendium... Yeni Sekme

EDGE IMPULSE

Dashboard Devices Data sources Data acquisition Impulse design Create impulse turkbayrak Transfer learning EON Tuner Retrain model Live classification Model testing Versioning Deployment GETTING STARTED Documentation Forums

omerkaan / Counting objects using FOMO omer

Project info Keys Export

omerkaan / Counting objects using FOMO omer

This is your Edge Impulse project. From here you acquire new training data, design impulses and train models.

IMAGES + New tag

About this project Add README

Sharing

Your project is private.

Make this project public

Summary

DEVICES CONNECTED 1

DATA COLLECTED 10 items

Creating your first impulse (100% complete)

Acquire data

Every Machine Learning project starts with data. You can capture data from a development board or your phone, or import data you already collected.

LET'S COLLECT SOME DATA

Design an impulse

Teach the model to interpret previously unseen data, based on historical data. Use this to categorize new data, or to find anomalies in sensor readings.

GETTING STARTED: CONTINUOUS MOTION RECOGNITION

23:30 19°C Çok bulutlu 18.11.2022

MATLAB x Counting objects using FOMO x Recognize sounds from audio x Your Repositories x Hardware specific tutorials - Ed x orhan 1saat - YouTube x MFCC Error Number of sample x

studio.edgeimpulse.com/studio/158500/create-impulse

Uygulamalar Gmail YouTube Haritalar Build Compendium... Yeni Sekme

EDGE IMPULSE

Dashboard Devices Data sources Data acquisition Impulse design Create impulse turkbayrak Transfer learning EON Tuner Retrain model Live classification Model testing Versioning Deployment

GETTING STARTED Documentation Forums

omerkaan / Counting objects using FOMO omer

An impulse takes raw data, uses signal processing to extract features, and then uses a learning block to classify new data.

Image data

Input axes
Image

Image width: 96 Image height: 96

Resize mode: Fit shortest axis

For optimal accuracy with transfer learning blocks, use a 96x96 or 160x160 image size.

Image

Name: turkbayrak

Input axes (1): ☒ image

Transfer Learning (Images)

Name: Transfer learning

Input features: ☒ turkbayrak

Output features: 2 (random bayrak, turkbayrak)

Output features

2 (random bayrak, turkbayrak)

Save Impulse

Add a processing block Add a learning block

trbayrak.jpg

Aramak için buraya yazın

TR 19°C Çok bulutlu 23:30 19.12.2023

MATLAB x Counting objects using FOMO x Recognize sounds from audio x Your Repositories x Hardware specific tutorials - Ed x orhan 1saat - YouTube x MFCC Error Number of sample x

studio.edgeimpulse.com/studio/158500/dsp/image/3

Uygulamalar Gmail YouTube Haritalar Build Compendium... Yeni Sekme

EDGE IMPULSE

Dashboard Devices Data sources Data acquisition Impulse design Create impulse turkbayrak Transfer learning EON Tuner Retrain model Live classification Model testing Versioning Deployment

GETTING STARTED Documentation Forums

omerkaan / Counting objects using FOMO omer

#1 Click to set a description for this version

Parameters Generate features

Raw data

Show: All labels turkbayrak, 314xptgn (turkbayrak)

Raw features

0x040a01, 0x070d01, 0x080a01, 0x080c02, 0x030a00, 0x0a0b01, 0x0c0c02, 0x0e0f03, 0xa10e02, 0xa30c01, 0xa60b00,...

Parameters

Image

Color depth: RGB

Save parameters

DSP result

Image

Processed features

0.5176, 0.0392, 0.0039, 0.5294, 0.0431, 0.0039, 0.5529, 0.0392, 0.0039, 0.5447, 0.0471, 0.0078, 0.5705, 0.0392.

On-device performance

trbayrak.jpg

Aramak için buraya yazın

TR 19°C Çok bulutlu 23:30 19.12.2023

MATLAB x Counting objects using FOMO x Recognize sounds from audio x Your Repositories x Hardware specific tutorials - Ed x orhan 1 saat - YouTube x MFC Error Number of sample: x

studio.edgeimpulse.com/studio/150500/learning/keras-transfer-image/5

Uygulamalar Gmail YouTube Haritalar Build Compendium... Yeni Sekme

EDGE IMPULSE

Dashboard
Devices
Data sources
Data acquisition
Impulse design
Create impulse
turkbayrak
Transfer learning
EON Tuner
Retrain model
Live classification
Model testing
Versioning
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GETTING STARTED
Documentation

omerkaan / Counting objects using FOMO omer

#1 Click to set a description for this version

Target: Arduino Portenta H7 (Cortex-M7 480MHz)

Neural Network settings

Training settings

Number of training cycles 50
Learning rate 0.0005
Validation set size 20 %
Auto-balance dataset ☒
Data augmentation ☒

Neural network architecture

Input layer (27.648 features)

MobileNetV2 96x96 0.35 (final layer: 16 neurons, 0.1 dropout)

Choose a different model

Training output

Model version: Quantized (int8)

Last training performance (validation set)

ACCURACY 50.0%
LOSS 0,96

Confusion matrix (validation set)

	RANDOM BAYRAK	TURKBAYRAK
RANDOM BAYRAK	0%	100%
TURKBAYRAK	0%	100%
F1 SCORE	0.00	0.67

Data explorer (full training set)

- random bayrak - correct
- turkbayrak - correct
- random bayrak - incorrect
- turkbayrak - incorrect

Lightshot
Ekran görüntüsü panoya kopyalandı

trbayrak.jpg

Aramak için buraya yazın

TR 19°C Çok bulutlu 23:30 19.11.2022