



Svensk representant:
<https://www.faleco.se>

SoundCam sensor for machine inspection

Today, maintenance and inspections of industrial machinery and processes are mainly performed manually by human workers. Although technical devices and sensors are widely used, many maintenance workers still rely on their hearing and experience to detect problems on the machines. Therefore, the inspection depends strongly on the experienced worker. However, since the human auditory perception changes during the day, this assessment is very subjective.

The SoundCam helps to monitor the machines via their sounds and makes the assessment objective. It creates an image on which the location of the sounds is marked. It is possible to listen to a specific point in order to analyze the sound of a component in isolation. The SoundCam can be used as a handheld device or integrated as a sensor in a machine or robot. The Ethernet port of the SoundCam and a description of the interface to the SoundCam allow you to write your own analysis software for the SoundCam, e.g. for further classification of the sounds. An individual microphone array customized to the application can be designed for widespread use.

The added value of the SoundCam:

- ✓ Real-time localization of sounds
- ✓ Immediately available images, videos, audio
- ✓ Contactless measuring
- ✓ Supression of background noise
- ✓ Objective recordings and visual documentation
- ✓ Comparative measurements



Sensor Output:

- ✓ Soundmap video
- ✓ Video camera
- ✓ Focal sound (overhear into a point of the soundmap)
- ✓ Audio spectrum



Communication:

Communication with the SoundCam sensor is logically via TCP/IP, physically via Ethernet. For the acquisition of the sensor data a documentation about the interface is available. Also available is an example source code in C++

Abnormal sound once per toothed belt revolution

that can be run directly in the Qt framework. The same project can also be used on a Raspberry Pi with Qt Framework installed. There is also an example project for LabVIEW.

Possible applications with the SoundCam:

- ✓ Process monitoring
- ✓ Abnormal sound detection
- ✓ Detection of cracking, rattling...
- ✓ Preventive maintenance

Do you want to integrate the SoundCam as a sensor? Please contact us! We will be happy to assist.



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