

ASSIGNMENT

IoT & SPEECH RECOGNITION TECHNOLOGY

The basis of the *IoT & SPEECH RECOGNITION TECHNOLOGY* is the machine recognition of the sense of a sentence received as an audio recording. Based on the recognized sense of the sentence a symbol is to be publicly displayed on a provided IoT platform. The sense of a sentence is usually recognized through key words that will be provided upfront to the contestants.

The teams are supposed to devise an algorithm that will, based on the audio output from a PC or a cell-phone recognize the sense of a sentence. After the recognition of the sense of a sentence, it is necessary to send the required symbol to an IoT platform, and subsequently from the IoT platform the same symbol is to be sent to a multimedia board.

The sentences can be joyful, funny, serious and sad. Each of these senses has an appropriate symbol

- The joyful sentence matches to the symbol 😊
- The funny sentence matches to the symbol 😄😄😄
- The serious sentence matches to the symbol 😐
- The sad sentence matches to the symbol ☹️

The second part of the assignment is to start an autonomous robot using the multimedia board. The autonomous robot moves are based on the symbol received from the IoT platform. The robot is supposed to find the appropriate track to the goal. The tracks will be drawn in black, while the goals will be marked with different colors.

The sentences that the teams will receive will be displayed to the spectators and will be read by a machine. Each team will get up to six sentences.

The contestants have a limited time to recognize the sentences and start the robot.

HARD & SOFT 2019

The following equipment will be provided to each of the teams:

- Multimedia board
- Battery-powered robot
- Contestants will use their own color sensors and line-following sensors
- Contestants will use their own module to receive and send data wirelessly
- Contestants will use their own PC or cellphone on which they will develop the speech-recognition algorithm