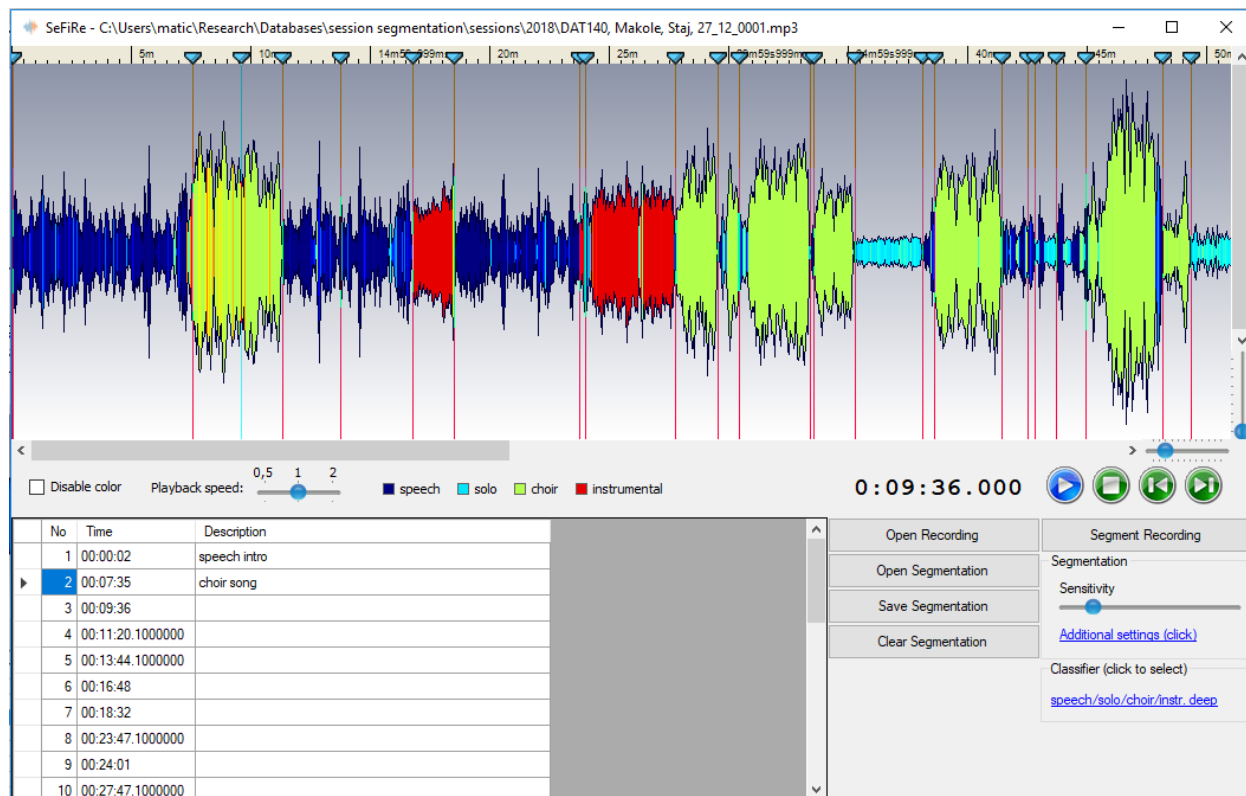


SeFiRe – Segmentation of Field Recordings

Short User Manual

SeFiRe is a tool for segmentation of field recordings (or other audio recordings) into individual items. It aims to be a useful semi-automatic tool for segmentation.

The user interface is shown in the image. The color-coded audio waveform and segment boundaries are shown on top, a list of segment boundaries and actions below. A single (mixed) channel is shown, even if the audio is multi-channel. The meaning of colors is shown in the legend below the waveform.



Available Actions

Open Recording opens a new audio recording (.mp3 and .wav files are supported). Upon loading an audio file, SeFiRe automatically labels and color-codes short segments of audio with the selected classifier. Loading an audio therefore takes a while *the first time*. Classification is saved in a .sfr file, so the next time loading is fast.

Play the button starts the audio playback. You may also use the *Space* or *F9* keys for playing or stopping the playback.

Stop the button stops the audio playback. You may also use the *Space* or *F9* keys for playing or stopping the playback.

- Audio cursor** the audio cursor can be placed by clicking on the waveform or selecting a segment from the list. Additionally, when audio is stopped, *Left*, *Right*, *Ctrl-Left*, *Ctrl-Right*, *Home* and *End* keys may be used to move it.
- Add Segment** a segment can be added by right-clicking the time-strip displayed above the waveform and choosing *Add Segment*. You can also press the *Ins* key to do the same.
- Delete Segment** a segment can be deleted by right-clicking the segment boundary head and choosing *Remove Segment*. You can also press the *Delete* key to do the same.
- Modify Segment** segment boundary times can be changed by dragging the boundary with the mouse or changing the segment time in the list of segments. Segment description can also be added in the list. Additionally, *Shift+Left/Right* keys can be used to nudge the boundary to the left or right.
- Next/Previous Segment** you may jump to the next or previous segment by clicking on the respective buttons (next to play and stop), pressing *Ctrl+Left/Right*, or moving up or down the list of segments.
- Playback Speed** changes playback speed to 2x or 0.5x, which may be useful for tapes digitized with wrong speed.
- Open/Save Segmentation** opens or saves the segments in a tab-delimited text file. Segment boundary times and descriptions are saved.
- Clear Segmentation** clears all the segments.
- Segment Recording** calculates segmentation (takes a few seconds) and places the segment boundaries. *Sensitivity* changes the number of boundaries – higher sensitivities results in more boundaries, lower in less. In the *Additional Settings*, the minimal segment length can be chosen, as well as the option of considering typical segment lengths (with respect to class) during segmentation.
- Classifier selection** four classifiers are included with SeFiRe and can be chosen to label the recording into *speech/music* or *speech/solo singing/choir singing/instrumental* or *speech/solo singing/choir singing/instrumental/bell chiming*. For the second option, two classifiers can be chosen: a fast one based on logistic regression, and a slower, but more accurate one, based on deep learning. A GPU is needed to run the deep classifier. When the classifier changes, SeFiRe takes some time to recalculate the classification.

Installation and Requirements

SeFiRe is a Windows application. It requires [.NET Framework](#) (at least version 4.6.2) to run, which is usually already available with a Windows OS. Simply unzip the files into a folder and run the application (SeFiRe.exe).