

Evaluation framework for automatic singing transcription v1.0: Manual of use for GUI

Author: Emilio Molina (emm@ic.uma.es)

ATIC Research Group, Universidad de Málaga

26/09/2014

1. Overview

This GUI is based on the evaluation measures described in [1]. It has been developed for easily evaluating and visualizing the performance of a given melodic transcriber. In our case, it is a very useful tool for our research on singing transcription.

It consists of three tabs:

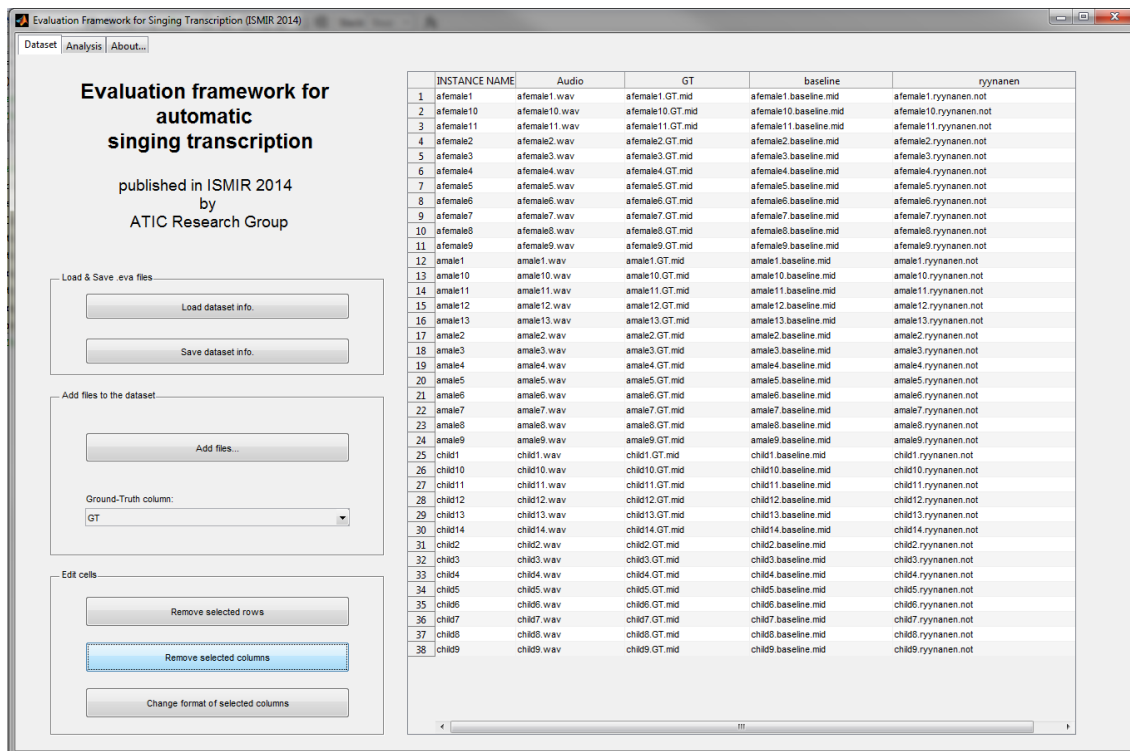
- **Dataset:** Management of files. Be sure that your files are properly organized in order to be understood by the software.
- **Analysis:** Visualize the performance of your singing transcriber, compute all relevant statistics and export them in a detailed .MAT file.
- **About...:** More information about the software and files provided, and about its conditions of use.

References:

[1] Molina, E., Barbancho A. M., Tardon, L. J., Barbancho, I., "Evaluation framework for automatic singing transcription", Proceedings of ISMIR 2014.

2. Dataset tab

Management of files. Be sure that your files are properly organized in order to be understood by the software.



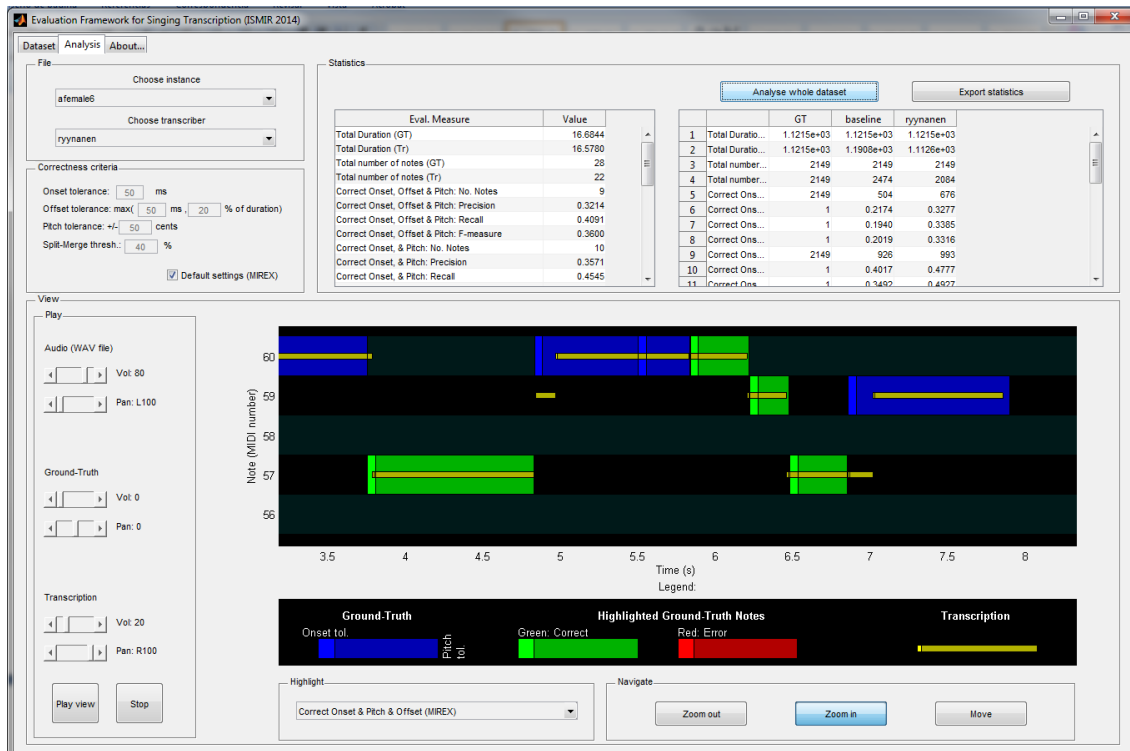
- **Load and Save .eva files:** All the information about your dataset (i.e. list of files, format of the files, ground-truth, etc.) can be loaded and stored in .eva files. You can use it when you have your own dataset perfectly organized and classified.
- **Add files to the dataset:** You can add files to your current dataset. The accepted formats are: .WAV files (only for audio playing), .MID files (monophonic!), ASCII-formatted (you can specify the exact format). You can use this button in order to add all the files within ./DATASET folder, all files will organize automatically.
- **Edit cells:** Once your files are stored in your dataset, you can select specific rows and columns in order to edit them (change the format, or delete them). This is useful when you want to create several subsets from your original dataset. Additionally, you should use the deletion of rows in order to remove any instance without an associated ground-truth file.

Example of use:

- Add all files in ./DATASET folder.
- Click of 'Save dataset in .eva' and store your file.

3. Analysis tab

Visualize the performance of your singing transcriber, compute all relevant statistics and export them in a detailed .MAT file.



- **File:** You can choose the instance and the transcription you want to evaluate and visualize.
- **Correctness criteria:** Please, refer to [1] for more about information about these parameters. The default values are the same as in used in *MIREX Multiple Fundamental Melody Estimation & Tracking* task, and in *Audio Onset Detection* task.
- **Statistics:** You can see the statistics for the current file (instance - transcriber) and for the whole dataset. You can also export your statistics to a .MAT file, once they are computed. In this .MAT file you can find all statistics per file, so you can perform extra test of statistical significance, or other types of advanced analysis of data.
- **View:** All the controls for properly visualize and listen the performance of your singing transcriber.
 - **Play:** You can play the current view (you can modify with Navigate controls). You can simultaneously play the original Audio (if a .WAV is present), the synthesized Ground-Truth and the synthesized Transcription.
 - **Highlight:** You can highlight specific categories of correct notes, or errors (see [1] for more information about them). Depending on the type of category, the highlighted notes are green or red. The rest of them are blue.
 - **Navigate:** Controls for navigating within the piano roll.