

License MIT release v1.3.0 downloads 232



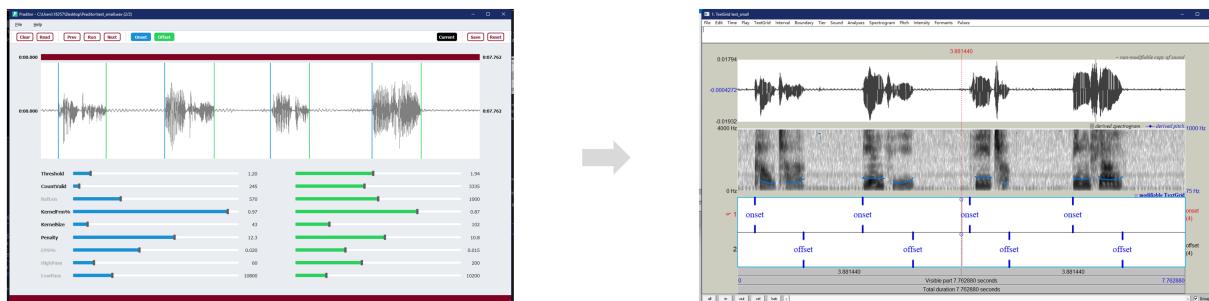
Praditor

A DBSCAN-Based Automation for Speech Onset Detection

[Download Praditor](#) | English · 中文

Features

Praditor is a **speech onset detector** that helps you find out boundaries between silence and sound **automatically**.



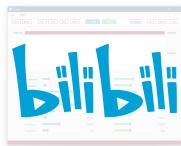
Praditor works for both **single-onset** and **multi-onset** audio files **without any language limitation**. It generates output as PointTiers in .TextGrid format.

- Onset/Offset Detection
- Silence Detection

Praditor also allows users to adjust parameters in the Dashboard to get a better performance.

You can try [test_audio.wav](#) and [test_audio_mp3.mp3](#) on **Praditor**.

Video instruction



Fine-tuning guidance

Basic understanding is enough. Understanding the algorithm is better.

- **Basic knowledge:** Go to the first section of [Quick Fix](#).
- **Advanced knowledge:** Go to the second section of [Quick Fix](#) (i.e., [Detailed Introduction](#)).
- **Expert knowledge:** Go to [Parameter](#).

Play with GUI

Although I have prepared various buttons in this GUI, you do not have to use them all.

The simplest and easiest procedure is (1) import audio files, (2) hit the `extract` button, (3) [optional] you are not happy about the results, fine-tune the parameters and hit the `extract` button again. **Until you are happy about the results, repeat step (2) and (3).**

General

`File` -> `Read files...` -> Import your target audio file (**Recommend**: ≥ 44.1 kHz; **Accept**: ≥ 8 kHz)

`Run` Run algorithm and extract onsets. Wait for a while until the results come out. Onsets are in blue, offsets are in green.

`Test` Test how many onsets/offsets may be found using the presented parameters. This function does not affect `.TextGrid`.

If the number meets the expectation, hit `Run` to get the final annotation.

`F5` to play the audio signal that is currently presented in the window, and `Any Key` to stop playing.

`Next/Prev` Move to the next/previous audio file

.TextGrid related

`Clear` If you want to temporarily clear the annotations, this does not delete/change the `.TextGrid` file. It's safe.

`Show` If you want the cleared annotations back. *Praditor* will go back to the `.TextGrid` and present whatever is in it.

`Onset/Offset` to hide/show annotations on the screen (also does not change the `.TextGrid`).

Note: **Onsets** and **offsets** are controlled by two DIFFERENT sets of parameters, which means there is **no strict guarantee on 1-to-1 correspondence**. Offset annotation is the onset annotation on the reversed audio.

Parameters

Current/Default Display default parameters or parameters for the current file

Save Save the displayed parameters as Current/Default

Reset Reset the displayed parameters to the last time you saved it

Last Go back to the last set parameters you have run

Audio signal

Mouse & Keyboard  

Wheel ↑/Wheel ↓ to zoom-in/out at **amplitude**

Ctrl/Command+Wheel ↑/Wheel ↓ to zoom-in/out at **timeline** (Ctrl/Command+I/O also works)

Shift+Wheel ↓/Wheel ↑ to move forward/backward in **timeline**

Touchpad 

↑  ↑ / ↓  ↓ to zoom-in/out at **amplitude**

←  → /  ← to zoom-in/out at **timeline**

Timeline zoom might not work in macOS. Use **Command + I/O** instead.

↔  /  ↔ to move forward/backward in **timeline**

Data and Materials

If you would like to download the datasets that were used in developing *Praditor*, please refer to [our OSF storage](#).

Acknowledgments

Shout out to these remarkable contributors!!

- Thank **YU Xinqi, Dr. MA Yunxiao, ZHANG Sifan** for their work in validating the effectiveness of *Praditor*'s algorithm.
- Thank **HU Wing Chung** for her work in packaging *Praditor* for macOS (arm64 and universal2)
- Thank **Prof. ZHANG Haoyun** (University of Macau) and **Prof. WANG Ruiming** (South China Normal University) for their guidance and support for this project

Also, the funding:

- This project was funded by the National Natural Science Foundation of China (32200845), the Science and Technology Development Fund, Macao S.A.R (FDCT, 0153/2022/A), and the Multi-Year Research Grant (MYRG2022-00148-IC1) from the University of Macau to Haoyun Zhang.

✉️ Contact us

Praditor is written and maintained by **Tony, Liu Zhengyuan** from Centre for Cognitive and Brain Sciences, University of Macau.

If you have any questions in terms of how to use *Praditor* or its algorithm details, or you want me to help you write some additional scripts like **export audio files**, **export Excel tables**, feel free to contact me at zhengyuan.liu@connect.um.edu.mo or paradeluxe3726@gmail.com.