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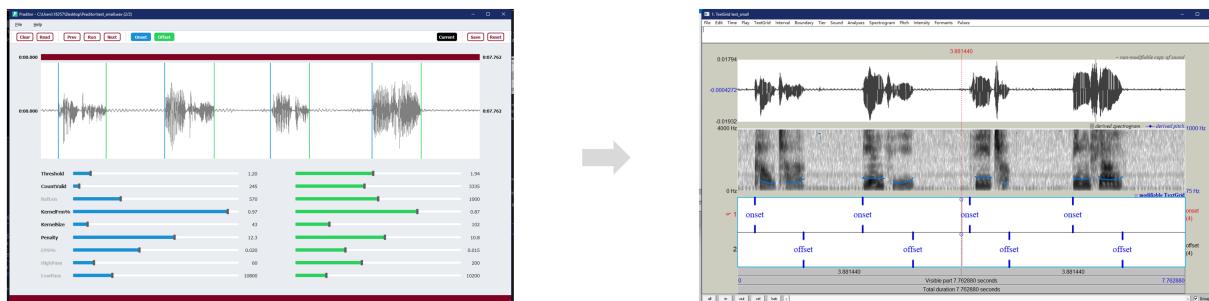
Praditor

A DBSCAN-Based Automation for Speech Onset Detection

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Features

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



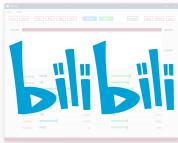
Praditor works for both **single-onset** and **multi-onset** audio files **without any language limitation**. It generates output as PointTiers in .TextGrid format.

- 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)

[Extract](#) run algorithm and extract onsets. Wait for a while until the results come out. Onsets are in blue, offsets are in green.

[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)
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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.