Notes on the Forced Aligner

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1 Download

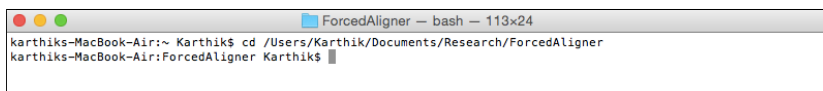Here is the link to download and install the software on to you computer.

2 What you will need

You will need the following files:

1. .wav file {sampling rates: 8000, 11025, and 16000}.

2. .txt file containing the text in UPPERCASE English orthography.

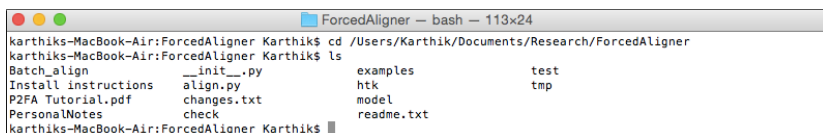3. Empty .TextGrid file {can be created in Praat}.

3 Running the Forced Aligner on your computer

1. Step 1: Open Terminal on a Mac {Get to the command prompt on Windows}.

2. Step 2: Go to the folder with the Forced Aligner.
   command: `cd \Users...\ForcedAligner`

3. Step 3: Check to see if you are in the correct directory.
   command: `ls`

4. Step 4: Now, you can run the command for forced alignment.
   command: `python align.py ***.wav ***.txt ***.TextGrid`

```
ForcedAligner — bash — 113×24
karthiks-MacBook-Air:~ Karthik$ cd /Users/Karthik/Documents/Research/ForcedAligner
karthiks-MacBook-Air:ForcedAligner Karthik$ ls
Batch_align          __init__.py         examples                test
Install instructions align.py            htk                     tmp
P2FA Tutorial.pdf    changes.txt         model
PersonalNotes        check               readme.txt
karthiks-MacBook-Air:ForcedAligner Karthik$ python align.py check/check.wav check/check.txt check/check.TextGrid
./tmp/sound.wav -> ./tmp/tmp.plp
karthiks-MacBook-Air:ForcedAligner Karthik$ ▌
```

5. Step 5: Open .TextGrid and .wav in Praat to check alignment is complete.

4 Most common issues

4.1 Alignment skips words

This means that the relevant words are not in the dictionary.

1. Step 1: Go to the subdirectory **model**, and open the **dict.txt** file.

2. Step 2: Go to the bottom of the file and add the new word.

```
dict — Edited ⌄
ZYMAN   Z AY1 M AH0 N
ZYNDA   Z IH1 N D AH0
ZYSK    Z AY1 S K
ZYSKOWSKI   Z IH2 S K AO1 F S K IY0
ZYUGANOV   Z Y UW1 G AA0 N AA0 V
ZYUGANOV'S   Z Y UW1 G AA0 N AA0 V Z
ZYUGANOV'S   Z Y UW1 G AA0 N AA0 F S
ZYUGANOV'S   Z UW1 G AA0 N AA0 V Z
ZYUGANOV'S   Z UW1 G AA0 N AA0 F S
ZYUGANOV   Z Y UW1 G AA0 N AA0 F
ZYUGANOV   Z UW1 G AA0 N AA0 V
ZYUGANOV   Z UW1 G AA0 N AA0 F
ZYWICKI   Z AH0 W IH1 K IY0
ZZZZ   Z IY0 Z
ZZZZ   Z Z
{BRACE   B R EY1 S
}CLOSE-BRACE   K L OW1 Z B R EY1 S
}RIGHT-BRACE   R AY1 T B R EY1 S
{BR}   br
{CG}   cg
{LEFT-BRACE   L EH1 F T B R EY1 S
{LG}   lg
{LS}   ls
{NS}   ns
{SL} sil
silence   sil
sp sp
!ENTER []
!EXIT []
SPAG   S P AE1 G
```
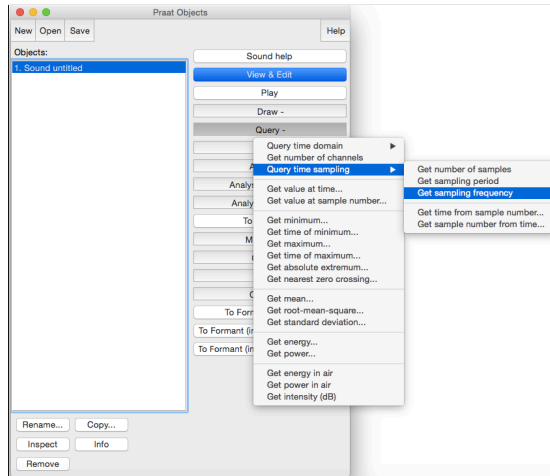
NOTES:

(a) Make sure the word is in uppercase lettering.

(b) Make sure there are **2 spaces** between the word and the transcription.

(c) Make sure there is **only 1 space** between each segment in the transcription.

(d) The dictionary file is just the CMU Pronunciation Dictionary, and so the transcription used is Arpabet.

(e) There has to be an extra space at the end of the last trasnscription {Not sure why :)}.
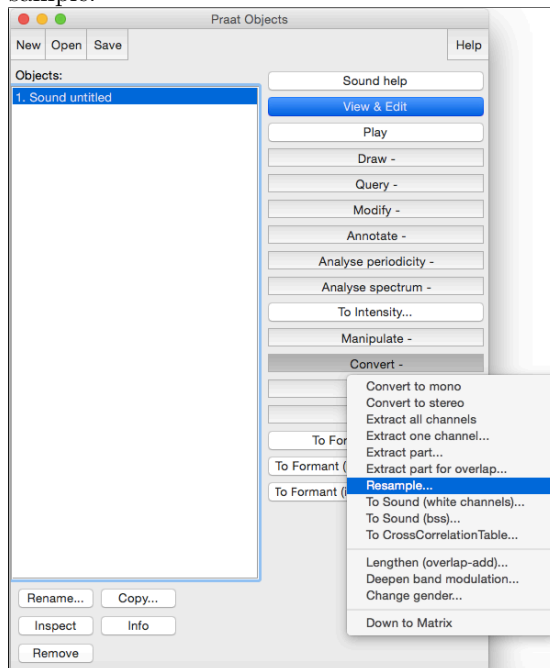
4.2   Alignment fails

At least for me, this has happened typically because the soundfile had the wrong sampling rate.

1. Step 1: Open soundfile in Praat.

2. Step 2: Go to **Query** and choose the relevant option.

3. Step 3: If it is not one of the sampling rates mentioned above, then resample.

5   More info

For more info, you can go here. The link also includes info on how to train the forced aligner on a new corpus. This should be interesting if you want to do more than use the English forced aligner in inventive ways.