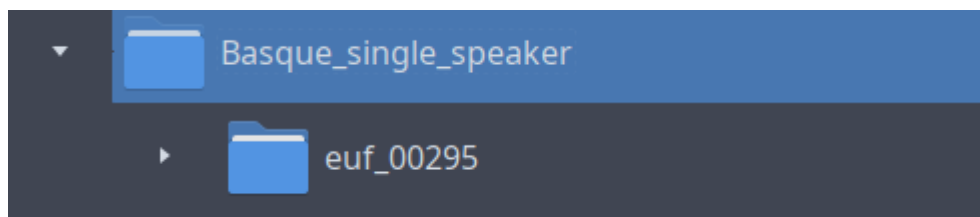# Training an acoustic model using a Basque dataset

In this notebook we will train an acoustic model of Basque and align the audio files. You can download the corpus from the Google drive and the corpus is already prepared for training, that is, wav and .lab files are already avaliable and located in folders for each speaker. Fortunately, there is already a dictionary available in the MFA repository. Note, that the corpus you downlaoded from the Google Drive is only a snippet of the whole corpus, that is, it contains only files, where all words of the transcription are also present in the available dictionary. The entire Basque corpus can be found here. Download the Basque dictionary by using the following command by using the command line (do not type the ! at the beginning):

```
In [1]:  !mfa model download dictionary basque_cv
```

For a first run, we will use only the data of one speaker. Create a directory for your corpus and paste one folder. The structure should look like this:

Recall that the directory of your corpus should contain either 1) wav and lab files only, or, if you have multiple speakers, 2) it should contain one folder for each speaker with wav and lab files or TextGrids.

We will validate first if all the words in the transcription are also in the dictionary. In this case, the path to the data is ~/Workspace/corpora/Basque_single_speaker/. Since we use a downlaoded dictionary, we can type in simply basque_cv for the dictionary. The whole command is as follows (adapt the paths to your system):

```
In [2]:  !mfa validate --clean ~/Workspace/corpora/Basque_single_speaker/ basque_
```

```
INFO - Setting up corpus information...
INFO - Loading corpus from source files...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.61it/s]
INFO - Found 1 speaker across 21 files, average number of utterances pe
r
                speaker: 21.0
INFO - Initializing multiprocessing jobs...
WARNING - Number of jobs was specified as 3, but due to only having 1 s
peakers,
                MFA will only use 1 jobs. Use the --single_speaker f
lag if
                you would like to split utterances across jobs regar
dless of
                their speaker.
INFO - Normalizing text...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
1.23it/s]
INFO - Creating corpus split for feature generation...
100%|████████████████████████████████████| 42/42 [00:01<00:00, 4
0.29it/s]
INFO - Generating MFCCs...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
4.03it/s]
INFO - Calculating CMVN...
INFO - Generating final features...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 2
0.05it/s]
INFO - Creating corpus split with features...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.37it/s]

INFO - ******
INFO - Corpus
INFO - ******

INFO -    21 sound files
INFO -    21 text files
INFO -    1 speakers
INFO -    21 utterances
INFO -    116.565 seconds total duration

INFO -    Sound file read errors
INFO -    ======================

INFO -       There were no issues reading sound files.

INFO -    Feature generation
INFO -    ==================

INFO -       There were no utterances missing features.

INFO -    Files without transcriptions
INFO -    ============================

INFO -       There were no sound files missing transcriptions.

INFO -    Transcriptions without sound files
INFO -    ==================================
```

```
INFO -     There were no transcription files missing sound files.


INFO - **********
INFO - Dictionary
INFO - **********

INFO -    Out of vocabulary words
INFO -    ======================

INFO -     There were no missing words from the dictionary. If you plan
on using
            the a      model trained on this dataset to align oth
er
            datasets in the future, it is        recommended that t
here be
            at least some missing words.


INFO - ********
INFO - Training
INFO - ********

INFO - Initializing training for monophone...
INFO - Compiling training graphs...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.71it/s]
INFO - Generating initial alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
8.95it/s]
INFO - Initialization complete!
INFO - monophone - Iteration 1 of 40
INFO - Generating alignments...
 90%|████████████████████████████████████     | 19/21 [00:01<00:00, 1
1.41it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.81it/s]
INFO - monophone - Iteration 2 of 40
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
4.21it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.80it/s]
INFO - monophone - Iteration 3 of 40
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
4.83it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.79it/s]
INFO - monophone - Iteration 4 of 40
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
5.22it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.81it/s]
INFO - monophone - Iteration 5 of 40
```

INFO - Generating alignments...
100%|████████████████████████████████| 21/21 [00:01<00:00, 15.13it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 19.79it/s]
INFO - monophone - Iteration 6 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 21/21 [00:01<00:00, 15.31it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 19.70it/s]
INFO - monophone - Iteration 7 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 21/21 [00:01<00:00, 15.40it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 19.80it/s]
INFO - monophone - Iteration 8 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 21/21 [00:01<00:00, 15.53it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 19.67it/s]
INFO - monophone - Iteration 9 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 21/21 [00:01<00:00, 15.67it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 19.59it/s]
INFO - monophone - Iteration 10 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 21/21 [00:01<00:00, 15.95it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 19.62it/s]
INFO - monophone - Iteration 11 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 19.45it/s]
INFO - monophone - Iteration 12 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 21/21 [00:01<00:00, 16.15it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 19.62it/s]
INFO - monophone - Iteration 13 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 19.42it/s]
INFO - monophone - Iteration 14 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 21/21 [00:01<00:00, 15.94it/s]

```
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.56it/s]
INFO - monophone - Iteration 15 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.46it/s]
INFO - monophone - Iteration 16 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
6.09it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.38it/s]
INFO - monophone - Iteration 17 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.43it/s]
INFO - monophone - Iteration 18 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
6.22it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.20it/s]
INFO - monophone - Iteration 19 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.21it/s]
INFO - monophone - Iteration 20 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
6.31it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.09it/s]
INFO - monophone - Iteration 21 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.23it/s]
INFO - monophone - Iteration 22 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.23it/s]
INFO - monophone - Iteration 23 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
6.84it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.09it/s]
INFO - monophone - Iteration 24 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.23it/s]
INFO - monophone - Iteration 25 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - monophone - Iteration 26 of 40
```

```
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
6.70it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.05it/s]
INFO - monophone - Iteration 27 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.20it/s]
INFO - monophone - Iteration 28 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.21it/s]
INFO - monophone - Iteration 29 of 40
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
6.50it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.15it/s]
INFO - monophone - Iteration 30 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.28it/s]
INFO - monophone - Iteration 31 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.29it/s]
INFO - monophone - Iteration 32 of 40
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
6.90it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.30it/s]
INFO - monophone - Iteration 33 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.21it/s]
INFO - monophone - Iteration 34 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.19it/s]
INFO - monophone - Iteration 35 of 40
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
6.83it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.09it/s]
INFO - monophone - Iteration 36 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.23it/s]
INFO - monophone - Iteration 37 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.22it/s]
INFO - monophone - Iteration 38 of 40
```

```
INFO - Generating alignments...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
6.82it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.12it/s]
INFO - monophone - Iteration 39 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.21it/s]
INFO - monophone - Iteration 40 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.27it/s]
INFO - Training complete!
INFO - Compiling training graphs...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.74it/s]
INFO - Generating alignments...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
6.12it/s]
INFO - Accumulating transition stats...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.40it/s]
INFO - Finished accumulating transition stats!
  0%|                                | 0/21 [00:00
<?, ?it/s]INFO - Collecting phone and word alignments from monophone_al
i lattices...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
5.21it/s]
INFO - Beginning phone LM training...
INFO - Collecting training data...
100%|████████████████████████████████| 21/21 [00:01<00:00, 2
0.35it/s]
INFO - Training model...
INFO - Completed training in 105.73466277122498 seconds!
INFO - Done! Everything took 119.060 seconds
```

At the beginning of the output you will see again important information: the total duration of all your wav files, number of speakers, and transcription and dictionary related information. As we can see, no transcription file is missing and we have no OOV words. Our corpus is now ready for training. The general command for

```
In [3]:   # mfa train --clean PATH_TO_YOUR_CORPUS PATH_TO_YOUR_DICTIONARY PATH_TO
```

It is best if the path for the storage of your acoustic model ends with a filename and a .zip suffix. Otherwise all the files and information of your acoustic model will be stored in the folder, not in a .zip archive.

In this case, I will run the command with the followinig specifications:

```
In [4]:   !mfa  train --clean ~/Workspace/corpora/Basque_single_speaker/ basque_c
```

```
WARNING - The previous run had a different configuration than the curre
nt, which
                    may cause issues. Please see the log for details or
use
                    --clean flag if issues are encountered.
INFO - Setting up corpus information...
INFO - Loading corpus from source files...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 2
0.20it/s]
INFO - Found 1 speaker across 21 files, average number of utterances pe
r
                speaker: 21.0
INFO - Initializing multiprocessing jobs...
WARNING - Number of jobs was specified as 3, but due to only having 1 s
peakers,
                    MFA will only use 1 jobs. Use the --single_speaker f
lag if
                    you would like to split utterances across jobs regar
dless of
                    their speaker.
INFO - Normalizing text...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
1.17it/s]
INFO - Creating corpus split for feature generation...
100%|████████████████████████████████████| 42/42 [00:01<00:00, 4
0.39it/s]
INFO - Generating MFCCs...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
3.86it/s]
INFO - Calculating CMVN...
INFO - Generating final features...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.81it/s]
INFO - Creating corpus split with features...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.18it/s]
INFO - Initializing training for monophone...
INFO - Compiling training graphs...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.74it/s]
INFO - Generating initial alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.76it/s]
INFO - Initialization complete!
INFO - monophone - Iteration 1 of 40
INFO - Generating alignments...
 95%|███████████████████████████████████ | 20/21 [00:01<00:00, 1
2.03it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.83it/s]
INFO - monophone - Iteration 2 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
5.48it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.85it/s]
INFO - monophone - Iteration 3 of 40
INFO - Generating alignments...
```

```
100%|████████████████████████████| 21/21 [00:01<00:00, 1
6.82it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.81it/s]
INFO - monophone - Iteration 4 of 40
INFO - Generating alignments...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
6.92it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.73it/s]
INFO - monophone - Iteration 5 of 40
INFO - Generating alignments...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
6.92it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.36it/s]
INFO - monophone - Iteration 6 of 40
INFO - Generating alignments...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
7.34it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.72it/s]
INFO - monophone - Iteration 7 of 40
INFO - Generating alignments...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
7.48it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.84it/s]
INFO - monophone - Iteration 8 of 40
INFO - Generating alignments...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
7.51it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.68it/s]
INFO - monophone - Iteration 9 of 40
INFO - Generating alignments...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
7.65it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.69it/s]
INFO - monophone - Iteration 10 of 40
INFO - Generating alignments...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
7.69it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.44it/s]
INFO - monophone - Iteration 11 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.65it/s]
INFO - monophone - Iteration 12 of 40
INFO - Generating alignments...
```

```
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
7.77it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.44it/s]
INFO - monophone - Iteration 13 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.60it/s]
INFO - monophone - Iteration 14 of 40
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
7.85it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.46it/s]
INFO - monophone - Iteration 15 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.49it/s]
INFO - monophone - Iteration 16 of 40
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
7.80it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.37it/s]
INFO - monophone - Iteration 17 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.23it/s]
INFO - monophone - Iteration 18 of 40
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
7.84it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.16it/s]
INFO - monophone - Iteration 19 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.15it/s]
INFO - monophone - Iteration 20 of 40
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
7.86it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.28it/s]
INFO - monophone - Iteration 21 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.13it/s]
INFO - monophone - Iteration 22 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.11it/s]
INFO - monophone - Iteration 23 of 40
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
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7.89it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.02it/s]
INFO - monophone - Iteration 24 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.09it/s]
INFO - monophone - Iteration 25 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.10it/s]
INFO - monophone - Iteration 26 of 40
INFO - Generating alignments...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
7.91it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
8.95it/s]
INFO - monophone - Iteration 27 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.12it/s]
INFO - monophone - Iteration 28 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.10it/s]
INFO - monophone - Iteration 29 of 40
INFO - Generating alignments...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
7.87it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.00it/s]
INFO - monophone - Iteration 30 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
8.57it/s]
INFO - monophone - Iteration 31 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.16it/s]
INFO - monophone - Iteration 32 of 40
INFO - Generating alignments...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
7.95it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.27it/s]
INFO - monophone - Iteration 33 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - monophone - Iteration 34 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
9.16it/s]
INFO - monophone - Iteration 35 of 40
INFO - Generating alignments...
100%|████████████████████████████| 21/21 [00:01<00:00, 1
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7.81it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.05it/s]
INFO - monophone - Iteration 36 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - monophone - Iteration 37 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.12it/s]
INFO - monophone - Iteration 38 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.82it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.05it/s]
INFO - monophone - Iteration 39 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - monophone - Iteration 40 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.10it/s]
INFO - Training complete!
INFO - Compiling training graphs...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.54it/s]
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
6.73it/s]
INFO - Initializing training for triphone...
INFO - Compiling training graphs...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.73it/s]
INFO - Converting alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 2
0.60it/s]
INFO - Initialization complete!
INFO - triphone - Iteration 1 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.10it/s]
INFO - triphone - Iteration 2 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - triphone - Iteration 3 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.11it/s]
INFO - triphone - Iteration 4 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.15it/s]
INFO - triphone - Iteration 5 of 35
INFO - Accumulating statistics...
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100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - triphone - Iteration 6 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - triphone - Iteration 7 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.00it/s]
INFO - triphone - Iteration 8 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.09it/s]
INFO - triphone - Iteration 9 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.04it/s]
INFO - triphone - Iteration 10 of 35
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
7.83it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.07it/s]
INFO - triphone - Iteration 11 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.06it/s]
INFO - triphone - Iteration 12 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.04it/s]
INFO - triphone - Iteration 13 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.08it/s]
INFO - triphone - Iteration 14 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.05it/s]
INFO - triphone - Iteration 15 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.07it/s]
INFO - triphone - Iteration 16 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.04it/s]
INFO - triphone - Iteration 17 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.09it/s]
INFO - triphone - Iteration 18 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.01it/s]
INFO - triphone - Iteration 19 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
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9.05it/s]
INFO - triphone - Iteration 20 of 35
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.75it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
8.93it/s]
INFO - triphone - Iteration 21 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.08it/s]
INFO - triphone - Iteration 22 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.08it/s]
INFO - triphone - Iteration 23 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.11it/s]
INFO - triphone - Iteration 24 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.04it/s]
INFO - triphone - Iteration 25 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.07it/s]
INFO - triphone - Iteration 26 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.05it/s]
INFO - triphone - Iteration 27 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.04it/s]
INFO - triphone - Iteration 28 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.05it/s]
INFO - triphone - Iteration 29 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.05it/s]
INFO - triphone - Iteration 30 of 35
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.86it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.02it/s]
INFO - triphone - Iteration 31 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.01it/s]
INFO - triphone - Iteration 32 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.05it/s]
INFO - triphone - Iteration 33 of 35
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INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.10it/s]
INFO - triphone - Iteration 34 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.07it/s]
INFO - triphone - Iteration 35 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.05it/s]
INFO - Training complete!
INFO - Compiling training graphs...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.52it/s]
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
6.69it/s]
INFO - Initializing training for lda...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.95it/s]
INFO - Compiling training graphs...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.71it/s]
INFO - Converting alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 2
0.54it/s]
INFO - Initialization complete!
INFO - lda - Iteration 1 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.87it/s]
INFO - lda - Iteration 2 of 35
INFO - Re-calculating LDA...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.61it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.23it/s]
INFO - lda - Iteration 3 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - lda - Iteration 4 of 35
INFO - Re-calculating LDA...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.61it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.22it/s]
INFO - lda - Iteration 5 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.22it/s]
INFO - lda - Iteration 6 of 35
INFO - Re-calculating LDA...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.61it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
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9.26it/s]
INFO - lda - Iteration 7 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - lda - Iteration 8 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.19it/s]
INFO - lda - Iteration 9 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.22it/s]
INFO - lda - Iteration 10 of 35
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.16it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.19it/s]
INFO - lda - Iteration 11 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.21it/s]
INFO - lda - Iteration 12 of 35
INFO - Re-calculating LDA...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.26it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.19it/s]
INFO - lda - Iteration 13 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - lda - Iteration 14 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - lda - Iteration 15 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.15it/s]
INFO - lda - Iteration 16 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - lda - Iteration 17 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.20it/s]
INFO - lda - Iteration 18 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - lda - Iteration 19 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - lda - Iteration 20 of 35
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INFO - Generating alignments...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
7.55it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.07it/s]
INFO - lda - Iteration 21 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - lda - Iteration 22 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.20it/s]
INFO - lda - Iteration 23 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.15it/s]
INFO - lda - Iteration 24 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.19it/s]
INFO - lda - Iteration 25 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.26it/s]
INFO - lda - Iteration 26 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.24it/s]
INFO - lda - Iteration 27 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.24it/s]
INFO - lda - Iteration 28 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.24it/s]
INFO - lda - Iteration 29 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.25it/s]
INFO - lda - Iteration 30 of 35
INFO - Generating alignments...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
7.49it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.13it/s]
INFO - lda - Iteration 31 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - lda - Iteration 32 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - lda - Iteration 33 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
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9.15it/s]
INFO - lda - Iteration 34 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.16it/s]
INFO - lda - Iteration 35 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.16it/s]
INFO - Training complete!
INFO - Compiling training graphs...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.56it/s]
INFO - Generating alignments...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
7.03it/s]
INFO - Initializing training for sat...
INFO - Calculating fMLLR for speaker adaptation...
100%|██████████████████████████████████| 1/1 [00:01<00:00,
1.17s/it]
INFO - Converting alignments...
100%|████████████████████████████████| 21/21 [00:01<00:00, 2
0.66it/s]
INFO - Compiling training graphs...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.45it/s]
INFO - Initialization complete!
INFO - sat - Iteration 1 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.89it/s]
INFO - sat - Iteration 2 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|██████████████████████████████████| 1/1 [00:01<00:00,
1.16s/it]
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
8.41it/s]
INFO - sat - Iteration 3 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.10it/s]
INFO - sat - Iteration 4 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|██████████████████████████████████| 1/1 [00:01<00:00,
1.15s/it]
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.27it/s]
INFO - sat - Iteration 5 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.22it/s]
INFO - sat - Iteration 6 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|██████████████████████████████████| 1/1 [00:01<00:00,
1.15s/it]
INFO - Accumulating statistics...
100%|████████████████████████████████| 21/21 [00:01<00:00, 1
9.27it/s]
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INFO - sat - Iteration 7 of 35
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1
9.22it/s]
INFO - sat - Iteration 8 of 35
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1
9.22it/s]
INFO - sat - Iteration 9 of 35
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1
9.16it/s]
INFO - sat - Iteration 10 of 35
INFO - Generating alignments...
100%|██| 21/21 [00:01<00:00, 1
7.13it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                        aligner.
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1
9.22it/s]
INFO - sat - Iteration 11 of 35
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1
9.20it/s]
INFO - sat - Iteration 12 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|██| 1/1 [00:01<00:00,
1.16s/it]
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1
8.57it/s]
INFO - sat - Iteration 13 of 35
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1
9.19it/s]
INFO - sat - Iteration 14 of 35
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - sat - Iteration 15 of 35
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - sat - Iteration 16 of 35
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - sat - Iteration 17 of 35
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1
9.20it/s]
INFO - sat - Iteration 18 of 35
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1
9.12it/s]
INFO - sat - Iteration 19 of 35
INFO - Accumulating statistics...
100%|██| 21/21 [00:01<00:00, 1

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9.18it/s]
INFO - sat - Iteration 20 of 35
INFO - Generating alignments...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
7.50it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                        aligner.
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - sat - Iteration 21 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - sat - Iteration 22 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - sat - Iteration 23 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - sat - Iteration 24 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - sat - Iteration 25 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.19it/s]
INFO - sat - Iteration 26 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - sat - Iteration 27 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - sat - Iteration 28 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - sat - Iteration 29 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.22it/s]
INFO - sat - Iteration 30 of 35
INFO - Generating alignments...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
7.58it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                        aligner.
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
9.05it/s]
INFO - sat - Iteration 31 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 21/21 [00:01<00:00, 1
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9.18it/s]
INFO - sat - Iteration 32 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 21/21 [00:01<00:00, 1
9.15it/s]
INFO - sat - Iteration 33 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 21/21 [00:01<00:00, 1
9.15it/s]
INFO - sat - Iteration 34 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - sat - Iteration 35 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 21/21 [00:01<00:00, 1
8.97it/s]
INFO - Creating alignment model for speaker-independent features...
100%|██████████████████████████████| 21/21 [00:01<00:00, 1
8.89it/s]
INFO - Training complete!
INFO - Compiling training graphs...
100%|██████████████████████████████| 21/21 [00:01<00:00, 1
9.57it/s]
INFO - Generating alignments...
100%|██████████████████████████████| 21/21 [00:01<00:00, 1
6.37it/s]
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████| 1/1 [00:01<00:00,
1.17s/it]
INFO - Generating alignments...
100%|██████████████████████████████| 21/21 [00:01<00:00, 1
6.43it/s]
INFO - Initializing training for sat_2...
INFO - Converting alignments...
100%|██████████████████████████████| 21/21 [00:01<00:00, 2
0.67it/s]
INFO - Compiling training graphs...
100%|██████████████████████████████| 21/21 [00:01<00:00, 1
9.45it/s]
INFO - Initialization complete!
INFO - sat_2 - Iteration 1 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 21/21 [00:01<00:00, 1
9.91it/s]
INFO - sat_2 - Iteration 2 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████| 1/1 [00:01<00:00,
1.17s/it]
INFO - Accumulating statistics...
100%|██████████████████████████████| 21/21 [00:01<00:00, 1
9.23it/s]
INFO - sat_2 - Iteration 3 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 21/21 [00:01<00:00, 1
9.25it/s]
INFO - sat_2 - Iteration 4 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████| 1/1 [00:01<00:00,
1.15s/it]
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INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.26it/s]
INFO - sat_2 - Iteration 5 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.21it/s]
INFO - sat_2 - Iteration 6 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████| 1/1 [00:01<00:00,
1.16s/it]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
8.55it/s]
INFO - sat_2 - Iteration 7 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.19it/s]
INFO - sat_2 - Iteration 8 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - sat_2 - Iteration 9 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.16it/s]
INFO - sat_2 - Iteration 10 of 35
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.18it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                    aligner.
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.19it/s]
INFO - sat_2 - Iteration 11 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.13it/s]
INFO - sat_2 - Iteration 12 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████| 1/1 [00:01<00:00,
1.16s/it]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.10it/s]
INFO - sat_2 - Iteration 13 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.19it/s]
INFO - sat_2 - Iteration 14 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.07it/s]
INFO - sat_2 - Iteration 15 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.16it/s]
INFO - sat_2 - Iteration 16 of 35
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INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - sat_2 - Iteration 17 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.10it/s]
INFO - sat_2 - Iteration 18 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.11it/s]
INFO - sat_2 - Iteration 19 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - sat_2 - Iteration 20 of 35
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.57it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                          aligner.
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - sat_2 - Iteration 21 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.20it/s]
INFO - sat_2 - Iteration 22 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.10it/s]
INFO - sat_2 - Iteration 23 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - sat_2 - Iteration 24 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - sat_2 - Iteration 25 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.13it/s]
INFO - sat_2 - Iteration 26 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.10it/s]
INFO - sat_2 - Iteration 27 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - sat_2 - Iteration 28 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - sat_2 - Iteration 29 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
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9.17it/s]
INFO - sat_2 - Iteration 30 of 35
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
7.34it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                          aligner.
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.16it/s]
INFO - sat_2 - Iteration 31 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.20it/s]
INFO - sat_2 - Iteration 32 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
8.86it/s]
INFO - sat_2 - Iteration 33 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.24it/s]
INFO - sat_2 - Iteration 34 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.19it/s]
INFO - sat_2 - Iteration 35 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - Creating alignment model for speaker-independent features...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
8.98it/s]
INFO - Training complete!
INFO - Compiling training graphs...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.60it/s]
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
6.70it/s]
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████████| 1/1 [00:01<00:00,
1.15s/it]
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
6.77it/s]
INFO - Generating pronunciations...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.65it/s]
INFO - Compiling training graphs...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
9.73it/s]
INFO - Generating alignments...
100%|████████████████████████████████████████| 21/21 [00:01<00:00, 1
7.52it/s]
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████████| 1/1 [00:01<00:00,
1.14s/it]
INFO - Generating alignments...
```

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100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.53it/s]
INFO - Initializing training for sat_3...
INFO - Converting alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 2
0.66it/s]
INFO - Compiling training graphs...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.51it/s]
INFO - Initialization complete!
INFO - sat_3 - Iteration 1 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.88it/s]
INFO - sat_3 - Iteration 2 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████| 1/1 [00:01<00:00,
1.21s/it]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
8.85it/s]
INFO - sat_3 - Iteration 3 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
8.91it/s]
INFO - sat_3 - Iteration 4 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████| 1/1 [00:01<00:00,
1.16s/it]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.21it/s]
INFO - sat_3 - Iteration 5 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.22it/s]
INFO - sat_3 - Iteration 6 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████| 1/1 [00:01<00:00,
1.15s/it]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
8.88it/s]
INFO - sat_3 - Iteration 7 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.21it/s]
INFO - sat_3 - Iteration 8 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.26it/s]
INFO - sat_3 - Iteration 9 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.13it/s]
INFO - sat_3 - Iteration 10 of 35
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.17it/s]
WARNING - No files were aligned, this likely indicates serious problems
```

with the
                    aligner.
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.20it/s]
INFO - sat_3 - Iteration 11 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.23it/s]
INFO - sat_3 - Iteration 12 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████| 1/1 [00:01<00:00,
1.16s/it]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.12it/s]
INFO - sat_3 - Iteration 13 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.25it/s]
INFO - sat_3 - Iteration 14 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
8.92it/s]
INFO - sat_3 - Iteration 15 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.21it/s]
INFO - sat_3 - Iteration 16 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.22it/s]
INFO - sat_3 - Iteration 17 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - sat_3 - Iteration 18 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - sat_3 - Iteration 19 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.19it/s]
INFO - sat_3 - Iteration 20 of 35
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.81it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                    aligner.
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.16it/s]
INFO - sat_3 - Iteration 21 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
8.94it/s]
INFO - sat_3 - Iteration 22 of 35
INFO - Accumulating statistics...

```
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.15it/s]
INFO - sat_3 - Iteration 23 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - sat_3 - Iteration 24 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.18it/s]
INFO - sat_3 - Iteration 25 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - sat_3 - Iteration 26 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.15it/s]
INFO - sat_3 - Iteration 27 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.25it/s]
INFO - sat_3 - Iteration 28 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - sat_3 - Iteration 29 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.14it/s]
INFO - sat_3 - Iteration 30 of 35
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.69it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                 aligner.
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.11it/s]
INFO - sat_3 - Iteration 31 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.17it/s]
INFO - sat_3 - Iteration 32 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.20it/s]
INFO - sat_3 - Iteration 33 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.24it/s]
INFO - sat_3 - Iteration 34 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.20it/s]
INFO - sat_3 - Iteration 35 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.24it/s]
```

```
INFO - Creating alignment model for speaker-independent features...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.00it/s]
INFO - Training complete!
INFO - Exiting training early to save time as the corpus is below the s
ubset
                    size for later training stages
INFO - Compiling training graphs...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.67it/s]
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.48it/s]
INFO - Calculating fMLLR for speaker adaptation...
100%|█████████████████████████████████████| 1/1 [00:01<00:00,
1.14s/it]
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
6.79it/s]
INFO - Accumulating transition stats...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 2
0.11it/s]
INFO - Finished accumulating transition stats!
  0%|                                      | 0/21 [00:00
<?, ?it/s]INFO - Collecting phone and word alignments from sat_3_ali la
ttices...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
5.17it/s]
INFO - Beginning phone LM training...
INFO - Collecting training data...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 2
0.34it/s]
INFO - Training model...
INFO - Completed training in 416.2070937156677 seconds!
INFO - Saved model to /home/philipp/Workspace/corpora/My_Basque_AC_mode
l.zip
INFO - Done! Everything took 430.041 seconds
```

You should see now the My_Basque_AC_model.zip at the specified location. Our data
is now ready for alignment! We are already familiar with the command, but this time,
we have use our acoustic model. Recall that the structure of the align command is:

In [5]:
```
# mfa align PATH_TO_YOUR_CORPUS PATH_TO_YOUR_DICTIONARY PATH_TO_YOUR_AC
```

For this data here, I use the following specification:

In [6]:
```
!mfa align --clean ~/Workspace/corpora/Basque_single_speaker/ basque_cv
```

```
INFO - Setting up corpus information...
INFO - Loading corpus from source files...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 2
0.33it/s]
INFO - Found 1 speaker across 21 files, average number of utterances pe
r
                speaker: 21.0
INFO - Initializing multiprocessing jobs...
WARNING - Number of jobs was specified as 3, but due to only having 1 s
peakers,
                MFA will only use 1 jobs. Use the --single_speaker f
lag if
                you would like to split utterances across jobs regar
dless of
                their speaker.
INFO - Normalizing text...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
1.36it/s]
INFO - Creating corpus split for feature generation...
100%|████████████████████████████████████| 42/42 [00:01<00:00, 4
0.40it/s]
INFO - Generating MFCCs...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
4.06it/s]
INFO - Calculating CMVN...
INFO - Generating final features...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.98it/s]
INFO - Creating corpus split with features...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
7.43it/s]
INFO - Compiling training graphs...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
9.67it/s]
INFO - Performing first-pass alignment...
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
5.91it/s]
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████| 1/1 [00:01<00:00,
1.17s/it]
INFO - Performing second-pass alignment...
INFO - Generating alignments...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
6.96it/s]
  0%|                                      | 0/21 [00:00
<?, ?it/s]INFO - Collecting phone and word alignments from alignment la
ttices...
100%|████████████████████████████████████| 21/21 [00:01<00:00, 1
5.14it/s]
INFO - Exporting alignment TextGrids to
                /home/philipp/Workspace/corpora/Basque_single_speaker_a
lignments
                ...
100%|████████████████████████████████████| 21/21 [00:02<00:00, 1
0.33it/s]
INFO - Finished exporting TextGrids to
                /home/philipp/Workspace/corpora/Basque_single_speaker_a
lignments
                !
```

```
Exception ignored in atexit callback: <bound method ExitHooks.history_s
ave_handler of <montreal_forced_aligner.command_line.mfa.ExitHooks obje
ct at 0x7f3ab8efbfa0>>
Traceback (most recent call last):
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/montreal_forced_aligner/command_line/mfa.py", line 95, in history_
save_handler
    raise self.exception
  File "/home/philipp/anaconda3/envs/mfaligner/bin/mfa", line 11, in <m
odule>
    sys.exit(mfa_cli())
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/click/core.py", line 1130, in __call__
    return self.main(*args, **kwargs)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/click/core.py", line 1055, in main
    rv = self.invoke(ctx)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/click/core.py", line 1657, in invoke
    return _process_result(sub_ctx.command.invoke(sub_ctx))
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/click/core.py", line 1404, in invoke
    return ctx.invoke(self.callback, **ctx.params)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/click/core.py", line 760, in invoke
    return __callback(*args, **kwargs)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/click/decorators.py", line 26, in new_func
    return f(get_current_context(), *args, **kwargs)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/montreal_forced_aligner/command_line/align.py", line 158, in align
_corpus_cli
    aligner.cleanup()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/montreal_forced_aligner/abc.py", line 620, in cleanup
    sqlalchemy.orm.session.close_all_sessions()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/orm/session.py", line 4977, in close_all_sessions
    sess.close()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/orm/session.py", line 2380, in close
    self._close_impl(invalidate=False)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/orm/session.py", line 2422, in _close_impl
    transaction.close(invalidate)
  File "<string>", line 2, in close
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/orm/state_changes.py", line 137, in _go
    ret_value = fn(self, *arg, **kw)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/orm/session.py", line 1327, in close
    transaction.close()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 2559, in close
    self._do_close()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 2697, in _do_close
    self._close_impl()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 2683, in _close_impl
```
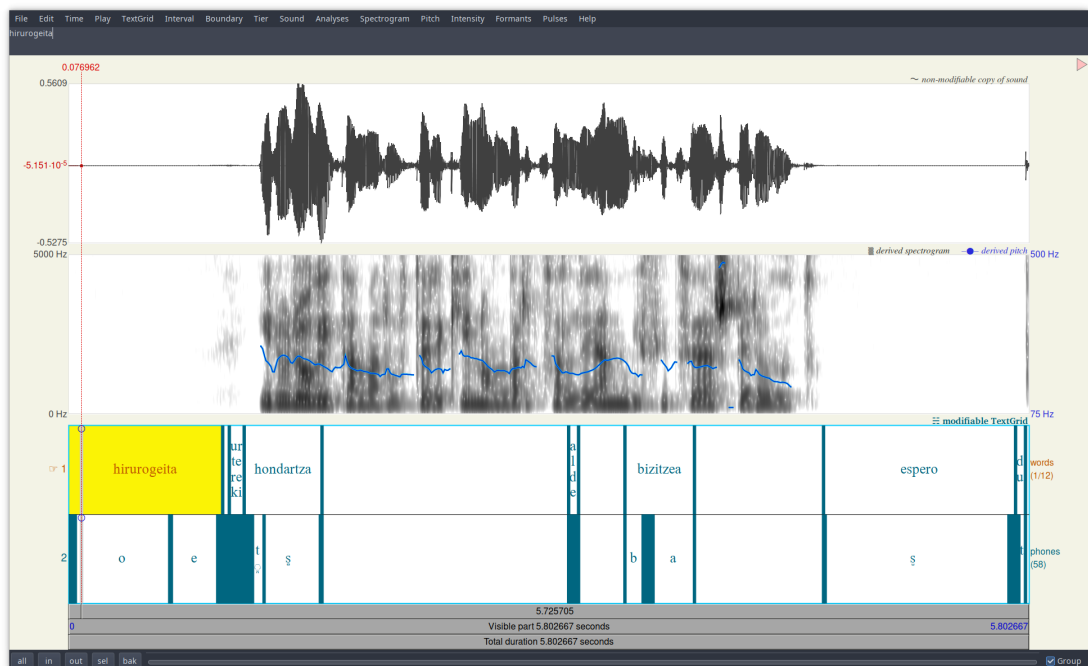
```
        self._connection_rollback_impl()
    File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 2675, in _connection_rollback_imp
l
        self.connection._rollback_impl()
    File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 1118, in _rollback_impl
        self._handle_dbapi_exception(e, None, None, None, None)
    File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 2326, in _handle_dbapi_exception
        raise sqlalchemy_exception.with_traceback(exc_info[2]) from e
    File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 1116, in _rollback_impl
        self.engine.dialect.do_rollback(self.connection)
    File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/default.py", line 657, in do_rollback
        dbapi_connection.rollback()
sqlalchemy.exc.OperationalError: (psycopg2.OperationalError) server clo
sed the connection unexpectedly
        This probably means the server terminated abnormally
        before or while processing the request.

(Background on this error at: https://sqlalche.me/e/20/e3q8)
```

We can now look at our TextGrids. And what we see is this:

This is horrible! The reason for these misalignments is that we trained our acoustic model on only 2 minutes of data. We will now repeat the training, but this time with more data. Create a new directory for your corpus or copy the other folders of the Basque dataset into your corpus directory. I created a new corpus folder called Basque_multi-speaker-dataset. It should look like this:

We validate again the new corpus (adapt the paths):

In [7]: `!mfa validate --clean ~/Workspace/corpora/Basque_multi-speaker_dataset/`

WARNING - The previous run had a different configuration than the curre
nt, which
                    may cause issues. Please see the log for details or
use
                    --clean flag if issues are encountered.
INFO - Setting up corpus information...
INFO - Loading corpus from source files...
100%|██████████████████████████████████| 618/618 [00:01<00:00, 53
2.15it/s]
INFO - Found 52 speakers across 618 files, average number of utterances
per
                    speaker: 11.884615384615385
INFO - Initializing multiprocessing jobs...
INFO - Normalizing text...
100%|██████████████████████████████████| 618/618 [00:01<00:00, 31
6.85it/s]
INFO - Creating corpus split for feature generation...
100%|██████████████████████████████████| 1236/1236 [00:01<00:00, 116
8.39it/s]
INFO - Generating MFCCs...
619it [00:07, 87.32it/s]
INFO - Calculating CMVN...
INFO - Generating final features...
100%|██████████████████████████████████| 618/618 [00:01<00:00, 50
3.62it/s]
INFO - Creating corpus split with features...
100%|██████████████████████████████████| 618/618 [00:01<00:00, 49
5.50it/s]

INFO - ******
INFO - **Corpus**
INFO - ******

INFO -   618 sound files
INFO -   618 text files
INFO -   52 speakers
INFO -   618 utterances
INFO -   3844.608 seconds total duration

INFO -   **Sound file read errors**
INFO -   =====================

INFO -   There were no issues reading sound files.

INFO -   **Feature generation**
INFO -   ==================

INFO -   There were no utterances missing features.

INFO -   **Files without transcriptions**
INFO -   ===========================

INFO -   There were no sound files missing transcriptions.

INFO -   **Transcriptions without sound files**
INFO -   ===============================

INFO -   There were no transcription files missing sound files.

```
INFO - **********
INFO - Dictionary
INFO - **********

INFO -    Out of vocabulary words
INFO -    ========================

INFO -     There were no missing words from the dictionary. If you plan
on using
              the a      model trained on this dataset to align oth
er
              datasets in the future, it is       recommended that t
here be
              at least some missing words.


INFO - ********
INFO - Training
INFO - ********

INFO - Initializing training for monophone...
INFO - Compiling training graphs...
100%|███████████████████████████████| 618/618 [00:01<00:00, 49
8.89it/s]
INFO - Generating initial alignments...
100%|███████████████████████████████| 618/618 [00:01<00:00, 40
9.39it/s]
INFO - Initialization complete!
INFO - monophone - Iteration 1 of 40
INFO - Generating alignments...
 82%|██████████████████████████       | 507/618 [00:08<00:01, 5
8.23it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 47
0.85it/s]
INFO - monophone - Iteration 2 of 40
INFO - Generating alignments...
100%|███████████████████████████████| 618/618 [00:05<00:00, 11
4.35it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 45
1.67it/s]
INFO - monophone - Iteration 3 of 40
INFO - Generating alignments...
100%|███████████████████████████████| 618/618 [00:04<00:00, 15
0.98it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 45
6.55it/s]
INFO - monophone - Iteration 4 of 40
INFO - Generating alignments...
100%|███████████████████████████████| 617/618 [00:03<00:00, 16
1.98it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 45
1.54it/s]
INFO - monophone - Iteration 5 of 40
INFO - Generating alignments...
100%|███████████████████████████████| 616/618 [00:03<00:00, 19
8.99it/s]
```

INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 43
9.09it/s]
INFO - monophone - Iteration 6 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 22
7.90it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 44
9.88it/s]
INFO - monophone - Iteration 7 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 24
2.86it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 44
7.99it/s]
INFO - monophone - Iteration 8 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 25
9.45it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 44
4.72it/s]
INFO - monophone - Iteration 9 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 26
1.04it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 44
0.41it/s]
INFO - monophone - Iteration 10 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 26
9.50it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 43
8.08it/s]
INFO - monophone - Iteration 11 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 43
7.96it/s]
INFO - monophone - Iteration 12 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 27
3.14it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 42
8.58it/s]
INFO - monophone - Iteration 13 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 42
4.93it/s]
INFO - monophone - Iteration 14 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 27
8.84it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 43
5.02it/s]

```
INFO - monophone - Iteration 15 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 42
6.19it/s]
INFO - monophone - Iteration 16 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 618/618 [00:02<00:00, 27
5.13it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 43
2.12it/s]
INFO - monophone - Iteration 17 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 42
8.84it/s]
INFO - monophone - Iteration 18 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 618/618 [00:02<00:00, 26
7.58it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 42
2.73it/s]
INFO - monophone - Iteration 19 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 41
6.98it/s]
INFO - monophone - Iteration 20 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 618/618 [00:02<00:00, 26
6.03it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 42
7.96it/s]
INFO - monophone - Iteration 21 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 42
3.43it/s]
INFO - monophone - Iteration 22 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 41
2.43it/s]
INFO - monophone - Iteration 23 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 618/618 [00:02<00:00, 26
5.42it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 41
6.39it/s]
INFO - monophone - Iteration 24 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 40
3.66it/s]
INFO - monophone - Iteration 25 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 41
2.33it/s]
INFO - monophone - Iteration 26 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 618/618 [00:02<00:00, 26
4.99it/s]
```

```
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
9.64it/s]
INFO - monophone - Iteration 27 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 41
3.88it/s]
INFO - monophone - Iteration 28 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
9.64it/s]
INFO - monophone - Iteration 29 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 26
5.42it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
1.87it/s]
INFO - monophone - Iteration 30 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
7.55it/s]
INFO - monophone - Iteration 31 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
7.60it/s]
INFO - monophone - Iteration 32 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 25
3.24it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
6.82it/s]
INFO - monophone - Iteration 33 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
2.84it/s]
INFO - monophone - Iteration 34 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
5.39it/s]
INFO - monophone - Iteration 35 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 26
0.09it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
5.15it/s]
INFO - monophone - Iteration 36 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
8.64it/s]
INFO - monophone - Iteration 37 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
7.81it/s]
INFO - monophone - Iteration 38 of 40
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 26
0.10it/s]
```

```
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 40
8.42it/s]
INFO - monophone - Iteration 39 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 40
8.25it/s]
INFO - monophone - Iteration 40 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 39
8.44it/s]
INFO - Training complete!
INFO - Compiling training graphs...
100%|████████████████████████████| 618/618 [00:01<00:00, 49
8.29it/s]
INFO - Generating alignments...
100%|████████████████████████████| 618/618 [00:02<00:00, 25
3.27it/s]
INFO - Accumulating transition stats...
100%|████████████████████████████| 618/618 [00:01<00:00, 56
3.02it/s]
INFO - Finished accumulating transition stats!
  0%|                                      | 0/618 [00:00
<?, ?it/s]INFO - Collecting phone and word alignments from monophone_al
i lattices...
100%|████████████████████████████| 618/618 [00:01<00:00, 31
8.59it/s]
INFO - Beginning phone LM training...
INFO - Collecting training data...
100%|████████████████████████████| 618/618 [00:01<00:00, 58
5.55it/s]
INFO - Training model...
INFO - Completed training in 180.79399728775024 seconds!
INFO - Done! Everything took 200.403 seconds
```

This looks way better: we have now a corpus of ~65 minutes and again, no missing transcriptions or sound files and no oov words. We start the training again, but we will change the name of the acoustic model into My_Basque_AC_model2.zip

In [8]: `!mfa  train --clean ~/Workspace/corpora/Basque_multi-speaker_dataset/ ba`

WARNING - The previous run had a different configuration than the curre
nt, which
                         may cause issues. Please see the log for details or
use
                         --clean flag if issues are encountered.
INFO - Setting up corpus information...
INFO - Loading corpus from source files...
100%|██████████████████████████████████████| 618/618 [00:01<00:00, 53
3.84it/s]
INFO - Found 52 speakers across 618 files, average number of utterances
per
                         speaker: 11.884615384615385
INFO - Initializing multiprocessing jobs...
INFO - Normalizing text...
100%|██████████████████████████████████████| 618/618 [00:01<00:00, 31
7.83it/s]
INFO - Creating corpus split for feature generation...
100%|██████████████████████████████████████| 1236/1236 [00:01<00:00, 116
5.34it/s]
INFO - Generating MFCCs...
619it [00:07, 87.67it/s]
INFO - Calculating CMVN...
INFO - Generating final features...
100%|██████████████████████████████████████| 618/618 [00:01<00:00, 49
6.19it/s]
INFO - Creating corpus split with features...
100%|██████████████████████████████████████| 618/618 [00:01<00:00, 50
0.32it/s]
INFO - Initializing training for monophone...
INFO - Compiling training graphs...
100%|██████████████████████████████████████| 618/618 [00:01<00:00, 49
8.93it/s]
INFO - Generating initial alignments...
100%|██████████████████████████████████████| 618/618 [00:01<00:00, 41
1.97it/s]
INFO - Initialization complete!
INFO - monophone - Iteration 1 of 40
INFO - Generating alignments...
 81%|████████████████████████████████ | 499/618 [00:08<00:01, 6
0.29it/s]
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:01<00:00, 46
3.69it/s]
INFO - monophone - Iteration 2 of 40
INFO - Generating alignments...
 99%|███████████████████████████████████████| 611/618 [00:06<00:00, 9
5.32it/s]
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:01<00:00, 45
1.01it/s]
INFO - monophone - Iteration 3 of 40
INFO - Generating alignments...
 99%|███████████████████████████████████████| 613/618 [00:04<00:00, 13
5.71it/s]
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:01<00:00, 44
5.64it/s]
INFO - monophone - Iteration 4 of 40
INFO - Generating alignments...
 99%|███████████████████████████████████████| 613/618 [00:04<00:00, 15

```
0.56it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 44
6.04it/s]
INFO - monophone - Iteration 5 of 40
INFO - Generating alignments...
100%|███████████████████████████████| 615/618 [00:03<00:00, 15
6.59it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 44
8.79it/s]
INFO - monophone - Iteration 6 of 40
INFO - Generating alignments...
100%|███████████████████████████████| 616/618 [00:03<00:00, 16
1.88it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 44
5.97it/s]
INFO - monophone - Iteration 7 of 40
INFO - Generating alignments...
100%|███████████████████████████████| 616/618 [00:03<00:00, 16
4.48it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 44
5.09it/s]
INFO - monophone - Iteration 8 of 40
INFO - Generating alignments...
100%|███████████████████████████████| 618/618 [00:03<00:00, 18
7.94it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 42
7.19it/s]
INFO - monophone - Iteration 9 of 40
INFO - Generating alignments...
100%|███████████████████████████████| 618/618 [00:02<00:00, 21
3.47it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 43
8.03it/s]
INFO - monophone - Iteration 10 of 40
INFO - Generating alignments...
100%|███████████████████████████████| 618/618 [00:02<00:00, 23
7.27it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 43
7.11it/s]
INFO - monophone - Iteration 11 of 40
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 43
8.80it/s]
INFO - monophone - Iteration 12 of 40
INFO - Generating alignments...
100%|███████████████████████████████| 618/618 [00:02<00:00, 24
8.12it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 43
5.61it/s]
INFO - monophone - Iteration 13 of 40
INFO - Accumulating statistics...
100%|███████████████████████████████| 618/618 [00:01<00:00, 43
```

```
3.47it/s]
INFO - monophone - Iteration 14 of 40
INFO - Generating alignments...
100%|████████████████████████████| 618/618 [00:02<00:00, 25
9.05it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 42
6.59it/s]
INFO - monophone - Iteration 15 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 42
7.50it/s]
INFO - monophone - Iteration 16 of 40
INFO - Generating alignments...
100%|████████████████████████████| 618/618 [00:02<00:00, 26
6.31it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 43
1.87it/s]
INFO - monophone - Iteration 17 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 42
7.91it/s]
INFO - monophone - Iteration 18 of 40
INFO - Generating alignments...
100%|████████████████████████████| 618/618 [00:02<00:00, 26
5.66it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 42
1.46it/s]
INFO - monophone - Iteration 19 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 41
9.41it/s]
INFO - monophone - Iteration 20 of 40
INFO - Generating alignments...
100%|████████████████████████████| 618/618 [00:02<00:00, 26
3.34it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 42
6.46it/s]
INFO - monophone - Iteration 21 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 42
2.42it/s]
INFO - monophone - Iteration 22 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 41
5.65it/s]
INFO - monophone - Iteration 23 of 40
INFO - Generating alignments...
100%|████████████████████████████| 618/618 [00:02<00:00, 26
5.81it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 41
3.28it/s]
INFO - monophone - Iteration 24 of 40
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 41
4.99it/s]
```

INFO - monophone - Iteration 25 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 41
2.48it/s]
INFO - monophone - Iteration 26 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 618/618 [00:02<00:00, 25
9.63it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 41
5.86it/s]
INFO - monophone - Iteration 27 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 41
2.70it/s]
INFO - monophone - Iteration 28 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 40
9.03it/s]
INFO - monophone - Iteration 29 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 618/618 [00:02<00:00, 25
7.63it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 40
5.73it/s]
INFO - monophone - Iteration 30 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 40
2.30it/s]
INFO - monophone - Iteration 31 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 39
3.80it/s]
INFO - monophone - Iteration 32 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 618/618 [00:02<00:00, 25
5.74it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 40
7.06it/s]
INFO - monophone - Iteration 33 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 40
4.05it/s]
INFO - monophone - Iteration 34 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 40
1.64it/s]
INFO - monophone - Iteration 35 of 40
INFO - Generating alignments...
100%|████████████████████████████████| 618/618 [00:02<00:00, 25
4.32it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 39
6.43it/s]
INFO - monophone - Iteration 36 of 40
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 40
3.93it/s]

```
INFO - monophone - Iteration 37 of 40
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 40
8.80it/s]
INFO - monophone - Iteration 38 of 40
INFO - Generating alignments...
100%|███████████████████████████████████| 618/618 [00:02<00:00, 25
7.75it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 40
5.98it/s]
INFO - monophone - Iteration 39 of 40
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 39
9.54it/s]
INFO - monophone - Iteration 40 of 40
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 39
8.45it/s]
INFO - Training complete!
INFO - Compiling training graphs...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 49
8.85it/s]
INFO - Generating alignments...
100%|███████████████████████████████████| 618/618 [00:02<00:00, 24
0.41it/s]
INFO - Initializing training for triphone...
INFO - Compiling training graphs...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 46
2.65it/s]
INFO - Converting alignments...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 57
8.42it/s]
INFO - Initialization complete!
INFO - triphone - Iteration 1 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 42
3.24it/s]
INFO - triphone - Iteration 2 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 43
8.00it/s]
INFO - triphone - Iteration 3 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 43
1.03it/s]
INFO - triphone - Iteration 4 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 42
3.54it/s]
INFO - triphone - Iteration 5 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 42
0.84it/s]
INFO - triphone - Iteration 6 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 41
8.84it/s]
INFO - triphone - Iteration 7 of 35
INFO - Accumulating statistics...
```

```
100%|████████████████████████████████████| 618/618 [00:01<00:00, 42
2.41it/s]
INFO - triphone - Iteration 8 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 41
1.02it/s]
INFO - triphone - Iteration 9 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 41
5.21it/s]
INFO - triphone - Iteration 10 of 35
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 28
2.28it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
5.71it/s]
INFO - triphone - Iteration 11 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
8.71it/s]
INFO - triphone - Iteration 12 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 39
5.42it/s]
INFO - triphone - Iteration 13 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
4.75it/s]
INFO - triphone - Iteration 14 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 40
2.98it/s]
INFO - triphone - Iteration 15 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 39
6.07it/s]
INFO - triphone - Iteration 16 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 39
4.38it/s]
INFO - triphone - Iteration 17 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 38
4.75it/s]
INFO - triphone - Iteration 18 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 38
3.48it/s]
INFO - triphone - Iteration 19 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 38
4.78it/s]
INFO - triphone - Iteration 20 of 35
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:02<00:00, 24
8.09it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 38
0.15it/s]
```

```
INFO - triphone - Iteration 21 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:01<00:00, 36
8.11it/s]
INFO - triphone - Iteration 22 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:01<00:00, 35
9.85it/s]
INFO - triphone - Iteration 23 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:01<00:00, 35
7.06it/s]
INFO - triphone - Iteration 24 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:01<00:00, 34
3.65it/s]
INFO - triphone - Iteration 25 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:01<00:00, 33
5.57it/s]
INFO - triphone - Iteration 26 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:01<00:00, 32
2.35it/s]
INFO - triphone - Iteration 27 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:02<00:00, 30
0.87it/s]
INFO - triphone - Iteration 28 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:02<00:00, 30
4.86it/s]
INFO - triphone - Iteration 29 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:02<00:00, 30
0.35it/s]
INFO - triphone - Iteration 30 of 35
INFO - Generating alignments...
100%|██████████████████████████████| 618/618 [00:03<00:00, 19
3.65it/s]
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:02<00:00, 30
0.66it/s]
INFO - triphone - Iteration 31 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:02<00:00, 30
2.95it/s]
INFO - triphone - Iteration 32 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:02<00:00, 29
9.46it/s]
INFO - triphone - Iteration 33 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:02<00:00, 30
1.73it/s]
INFO - triphone - Iteration 34 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████| 618/618 [00:02<00:00, 29
9.87it/s]
INFO - triphone - Iteration 35 of 35
```

INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:02<00:00, 29
2.03it/s]
INFO - Training complete!
INFO - Compiling training graphs...
100%|████████████████████████████| 618/618 [00:01<00:00, 46
1.88it/s]
INFO - Generating alignments...
100%|████████████████████████████| 618/618 [00:03<00:00, 18
7.14it/s]
INFO - Initializing training for lda...
100%|████████████████████████████| 618/618 [00:01<00:00, 54
5.42it/s]
INFO - Compiling training graphs...
100%|████████████████████████████| 618/618 [00:01<00:00, 46
0.12it/s]
INFO - Converting alignments...
100%|████████████████████████████| 618/618 [00:01<00:00, 57
7.43it/s]
INFO - Initialization complete!
INFO - lda - Iteration 1 of 35
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 46
2.01it/s]
INFO - lda - Iteration 2 of 35
INFO - Re-calculating LDA...
100%|████████████████████████████| 618/618 [00:01<00:00, 46
3.81it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 43
9.85it/s]
INFO - lda - Iteration 3 of 35
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 44
3.61it/s]
INFO - lda - Iteration 4 of 35
INFO - Re-calculating LDA...
100%|████████████████████████████| 618/618 [00:01<00:00, 45
1.88it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 43
0.10it/s]
INFO - lda - Iteration 5 of 35
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 43
2.91it/s]
INFO - lda - Iteration 6 of 35
INFO - Re-calculating LDA...
100%|████████████████████████████| 618/618 [00:01<00:00, 44
7.50it/s]
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 42
6.45it/s]
INFO - lda - Iteration 7 of 35
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 42
3.88it/s]
INFO - lda - Iteration 8 of 35
INFO - Accumulating statistics...
100%|████████████████████████████| 618/618 [00:01<00:00, 42

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0.03it/s]
INFO - lda - Iteration 9 of 35
INFO - Accumulating statistics...
100%|███████████████████████████| 618/618 [00:01<00:00, 41
3.13it/s]
INFO - lda - Iteration 10 of 35
INFO - Generating alignments...
100%|███████████████████████████| 617/618 [00:02<00:00, 27
9.84it/s]
INFO - Accumulating statistics...
100%|███████████████████████████| 618/618 [00:01<00:00, 40
6.22it/s]
INFO - lda - Iteration 11 of 35
INFO - Accumulating statistics...
100%|███████████████████████████| 618/618 [00:01<00:00, 39
8.20it/s]
INFO - lda - Iteration 12 of 35
INFO - Re-calculating LDA...
100%|███████████████████████████| 617/618 [00:01<00:00, 44
6.94it/s]
INFO - Accumulating statistics...
100%|███████████████████████████| 618/618 [00:01<00:00, 39
0.62it/s]
INFO - lda - Iteration 13 of 35
INFO - Accumulating statistics...
100%|███████████████████████████| 618/618 [00:01<00:00, 38
2.26it/s]
INFO - lda - Iteration 14 of 35
INFO - Accumulating statistics...
100%|███████████████████████████| 618/618 [00:01<00:00, 37
8.72it/s]
INFO - lda - Iteration 15 of 35
INFO - Accumulating statistics...
100%|███████████████████████████| 618/618 [00:01<00:00, 34
1.00it/s]
INFO - lda - Iteration 16 of 35
INFO - Accumulating statistics...
100%|███████████████████████████| 618/618 [00:01<00:00, 33
3.30it/s]
INFO - lda - Iteration 17 of 35
INFO - Accumulating statistics...
100%|███████████████████████████| 618/618 [00:02<00:00, 29
9.02it/s]
INFO - lda - Iteration 18 of 35
INFO - Accumulating statistics...
100%|███████████████████████████| 618/618 [00:02<00:00, 25
6.68it/s]
INFO - lda - Iteration 19 of 35
INFO - Accumulating statistics...
100%|███████████████████████████| 618/618 [00:02<00:00, 22
0.53it/s]
INFO - lda - Iteration 20 of 35
INFO - Generating alignments...
100%|███████████████████████████| 617/618 [00:04<00:00, 12
3.61it/s]
INFO - Accumulating statistics...
100%|███████████████████████████| 618/618 [00:03<00:00, 19
3.67it/s]
INFO - lda - Iteration 21 of 35
INFO - Accumulating statistics...
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100%|████████████████████████████████| 618/618 [00:03<00:00, 18
0.30it/s]
INFO - lda - Iteration 22 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:03<00:00, 16
3.56it/s]
INFO - lda - Iteration 23 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:04<00:00, 14
9.66it/s]
INFO - lda - Iteration 24 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:04<00:00, 12
8.53it/s]
INFO - lda - Iteration 25 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:04<00:00, 12
5.16it/s]
INFO - lda - Iteration 26 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:05<00:00, 11
6.75it/s]
INFO - lda - Iteration 27 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:05<00:00, 10
8.60it/s]
INFO - lda - Iteration 28 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:05<00:00, 10
8.39it/s]
INFO - lda - Iteration 29 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:05<00:00, 10
8.31it/s]
INFO - lda - Iteration 30 of 35
INFO - Generating alignments...
100%|████████████████████████████████| 617/618 [00:08<00:00, 7
6.71it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:05<00:00, 10
9.06it/s]
INFO - lda - Iteration 31 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:05<00:00, 10
8.41it/s]
INFO - lda - Iteration 32 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:05<00:00, 10
7.16it/s]
INFO - lda - Iteration 33 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:05<00:00, 10
5.66it/s]
INFO - lda - Iteration 34 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:05<00:00, 10
6.07it/s]
INFO - lda - Iteration 35 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:05<00:00, 10
```

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5.45it/s]
INFO - Training complete!
INFO - Compiling training graphs...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 45
9.17it/s]
INFO - Generating alignments...
100%|████████████████████████████████████| 617/618 [00:07<00:00, 8
4.60it/s]
INFO - Initializing training for sat...
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████| 52/52 [00:02<00:00, 1
9.76it/s]
INFO - Converting alignments...
100%|████████████████████████████████████| 617/618 [00:01<00:00, 58
8.19it/s]
INFO - Compiling training graphs...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 45
8.17it/s]
INFO - Initialization complete!
INFO - sat - Iteration 1 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 46
3.16it/s]
INFO - sat - Iteration 2 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████| 52/52 [00:02<00:00, 2
0.75it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 43
5.53it/s]
INFO - sat - Iteration 3 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 43
9.94it/s]
INFO - sat - Iteration 4 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████| 52/52 [00:02<00:00, 2
0.36it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 43
2.79it/s]
INFO - sat - Iteration 5 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 43
4.47it/s]
INFO - sat - Iteration 6 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████| 52/52 [00:02<00:00, 2
0.37it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 42
7.72it/s]
INFO - sat - Iteration 7 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 42
6.46it/s]
INFO - sat - Iteration 8 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 42
0.63it/s]
```

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INFO - sat - Iteration 9 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 41
7.49it/s]
INFO - sat - Iteration 10 of 35
INFO - Generating alignments...
100%|███████████████████████████████████| 617/618 [00:02<00:00, 28
6.34it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                        aligner.
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 41
4.39it/s]
INFO - sat - Iteration 11 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 40
6.73it/s]
INFO - sat - Iteration 12 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|███████████████████████████████████| 52/52 [00:02<00:00, 2
0.01it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 39
8.84it/s]
INFO - sat - Iteration 13 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 38
9.93it/s]
INFO - sat - Iteration 14 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 37
4.33it/s]
INFO - sat - Iteration 15 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 34
7.58it/s]
INFO - sat - Iteration 16 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:02<00:00, 30
0.74it/s]
INFO - sat - Iteration 17 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:02<00:00, 26
4.29it/s]
INFO - sat - Iteration 18 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:02<00:00, 23
4.59it/s]
INFO - sat - Iteration 19 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:02<00:00, 20
9.71it/s]
INFO - sat - Iteration 20 of 35
INFO - Generating alignments...
100%|███████████████████████████████████| 617/618 [00:05<00:00, 11
3.21it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                        aligner.
```

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INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:03<00:00, 18
3.98it/s]
INFO - sat - Iteration 21 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:03<00:00, 17
2.21it/s]
INFO - sat - Iteration 22 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:03<00:00, 15
6.09it/s]
INFO - sat - Iteration 23 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:04<00:00, 14
6.02it/s]
INFO - sat - Iteration 24 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:04<00:00, 13
3.67it/s]
INFO - sat - Iteration 25 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:05<00:00, 12
2.34it/s]
INFO - sat - Iteration 26 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:05<00:00, 11
5.63it/s]
INFO - sat - Iteration 27 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:05<00:00, 10
8.01it/s]
INFO - sat - Iteration 28 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:05<00:00, 10
8.78it/s]
INFO - sat - Iteration 29 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:05<00:00, 10
6.45it/s]
INFO - sat - Iteration 30 of 35
INFO - Generating alignments...
100%|██████████████████████████████████████| 617/618 [00:07<00:00, 8
0.53it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                        aligner.
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:05<00:00, 10
5.33it/s]
INFO - sat - Iteration 31 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:05<00:00, 10
5.77it/s]
INFO - sat - Iteration 32 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:05<00:00, 10
5.79it/s]
INFO - sat - Iteration 33 of 35
INFO - Accumulating statistics...
100%|██████████████████████████████████████| 618/618 [00:05<00:00, 10
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5.11it/s]
INFO - sat - Iteration 34 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:05<00:00, 10
6.57it/s]
INFO - sat - Iteration 35 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:06<00:00, 10
0.65it/s]
INFO - Creating alignment model for speaker-independent features...
100%|████████████████████████████████| 617/618 [00:06<00:00, 9
8.75it/s]
INFO - Training complete!
INFO - Compiling training graphs...
100%|████████████████████████████████| 618/618 [00:01<00:00, 45
8.25it/s]
INFO - Generating alignments...
100%|████████████████████████████████| 617/618 [00:08<00:00, 7
6.29it/s]
INFO - Calculating fMLLR for speaker adaptation...
100%|█████████████████████████████████| 52/52 [00:02<00:00, 2
0.22it/s]
INFO - Generating alignments...
100%|████████████████████████████████| 617/618 [00:07<00:00, 8
1.83it/s]
INFO - Initializing training for sat_2...
INFO - Converting alignments...
100%|████████████████████████████████| 617/618 [00:01<00:00, 58
9.32it/s]
INFO - Compiling training graphs...
100%|████████████████████████████████| 618/618 [00:01<00:00, 45
7.63it/s]
INFO - Initialization complete!
INFO - sat_2 - Iteration 1 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 45
5.61it/s]
INFO - sat_2 - Iteration 2 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|█████████████████████████████████| 52/52 [00:02<00:00, 2
0.21it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 43
6.64it/s]
INFO - sat_2 - Iteration 3 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 42
5.01it/s]
INFO - sat_2 - Iteration 4 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|█████████████████████████████████| 52/52 [00:02<00:00, 1
9.90it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 41
1.65it/s]
INFO - sat_2 - Iteration 5 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████| 618/618 [00:01<00:00, 37
5.83it/s]
INFO - sat_2 - Iteration 6 of 35
```

INFO - Calculating fMLLR for speaker adaptation...
100%|███████████████████████████████████████| 52/52 [00:02<00:00, 2
0.25it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████████████| 618/618 [00:02<00:00, 26
3.86it/s]
INFO - sat_2 - Iteration 7 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████████| 618/618 [00:03<00:00, 18
6.47it/s]
INFO - sat_2 - Iteration 8 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████████| 618/618 [00:04<00:00, 13
7.06it/s]
INFO - sat_2 - Iteration 9 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████████| 618/618 [00:05<00:00, 11
3.34it/s]
INFO - sat_2 - Iteration 10 of 35
INFO - Generating alignments...
100%|███████████████████████████████████████| 617/618 [00:10<00:00, 5
6.14it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                         aligner.
INFO - Accumulating statistics...
100%|███████████████████████████████████████| 618/618 [00:06<00:00, 9
2.73it/s]
INFO - sat_2 - Iteration 11 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████████| 618/618 [00:07<00:00, 7
7.37it/s]
INFO - sat_2 - Iteration 12 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|███████████████████████████████████████| 52/52 [00:02<00:00, 2
0.12it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████████████| 618/618 [00:09<00:00, 6
5.67it/s]
INFO - sat_2 - Iteration 13 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████████| 618/618 [00:09<00:00, 6
5.01it/s]
INFO - sat_2 - Iteration 14 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████████| 618/618 [00:09<00:00, 6
5.49it/s]
INFO - sat_2 - Iteration 15 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████████| 618/618 [00:09<00:00, 6
5.76it/s]
INFO - sat_2 - Iteration 16 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████████| 618/618 [00:09<00:00, 6
5.10it/s]
INFO - sat_2 - Iteration 17 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████████| 618/618 [00:09<00:00, 6
2.79it/s]
INFO - sat_2 - Iteration 18 of 35

```
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 618/618 [00:10<00:00, 6
1.40it/s]
INFO - sat_2 - Iteration 19 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 618/618 [00:10<00:00, 6
1.44it/s]
INFO - sat_2 - Iteration 20 of 35
INFO - Generating alignments...
100%|████████████████████████████████████████| 617/618 [00:12<00:00, 4
9.59it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                            aligner.
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 618/618 [00:09<00:00, 6
2.50it/s]
INFO - sat_2 - Iteration 21 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 618/618 [00:09<00:00, 6
2.25it/s]
INFO - sat_2 - Iteration 22 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 618/618 [00:10<00:00, 6
0.89it/s]
INFO - sat_2 - Iteration 23 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 618/618 [00:10<00:00, 6
0.90it/s]
INFO - sat_2 - Iteration 24 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 618/618 [00:10<00:00, 6
1.07it/s]
INFO - sat_2 - Iteration 25 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 618/618 [00:10<00:00, 6
0.41it/s]
INFO - sat_2 - Iteration 26 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 618/618 [00:10<00:00, 5
9.84it/s]
INFO - sat_2 - Iteration 27 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 618/618 [00:10<00:00, 6
1.00it/s]
INFO - sat_2 - Iteration 28 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 618/618 [00:10<00:00, 6
0.27it/s]
INFO - sat_2 - Iteration 29 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████████| 618/618 [00:10<00:00, 6
1.59it/s]
INFO - sat_2 - Iteration 30 of 35
INFO - Generating alignments...
100%|████████████████████████████████████████| 617/618 [00:11<00:00, 5
2.26it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                            aligner.
```

```
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:10<00:00, 6
0.77it/s]
INFO - sat_2 - Iteration 31 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:10<00:00, 5
9.93it/s]
INFO - sat_2 - Iteration 32 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:10<00:00, 6
0.46it/s]
INFO - sat_2 - Iteration 33 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:10<00:00, 6
0.18it/s]
INFO - sat_2 - Iteration 34 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:10<00:00, 6
0.09it/s]
INFO - sat_2 - Iteration 35 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:11<00:00, 5
3.81it/s]
INFO - Creating alignment model for speaker-independent features...
100%|███████████████████████████████████| 617/618 [00:11<00:00, 5
5.65it/s]
INFO - Training complete!
INFO - Compiling training graphs...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 45
7.72it/s]
INFO - Generating alignments...
100%|███████████████████████████████████| 618/618 [00:12<00:00, 4
9.43it/s]
INFO - Calculating fMLLR for speaker adaptation...
100%|███████████████████████████████████| 52/52 [00:02<00:00, 2
0.12it/s]
INFO - Generating alignments...
100%|███████████████████████████████████| 617/618 [00:11<00:00, 5
3.65it/s]
INFO - Generating pronunciations...
100%|███████████████████████████████████| 617/618 [00:01<00:00, 50
0.82it/s]
INFO - Compiling training graphs...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 45
6.96it/s]
INFO - Generating alignments...
100%|███████████████████████████████████| 618/618 [00:11<00:00, 5
3.14it/s]
INFO - Calculating fMLLR for speaker adaptation...
100%|███████████████████████████████████| 52/52 [00:02<00:00, 1
9.66it/s]
INFO - Generating alignments...
100%|███████████████████████████████████| 617/618 [00:10<00:00, 5
6.09it/s]
INFO - Initializing training for sat_3...
INFO - Converting alignments...
100%|███████████████████████████████████| 617/618 [00:01<00:00, 58
7.96it/s]
INFO - Compiling training graphs...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 45
```

```
1.60it/s]
INFO - Initialization complete!
INFO - sat_3 - Iteration 1 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 45
7.92it/s]
INFO - sat_3 - Iteration 2 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|███████████████████████████████████| 52/52 [00:02<00:00, 1
9.80it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 42
9.01it/s]
INFO - sat_3 - Iteration 3 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:01<00:00, 34
2.27it/s]
INFO - sat_3 - Iteration 4 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|███████████████████████████████████| 52/52 [00:02<00:00, 2
0.35it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:04<00:00, 13
9.97it/s]
INFO - sat_3 - Iteration 5 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:07<00:00, 8
1.86it/s]
INFO - sat_3 - Iteration 6 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|███████████████████████████████████| 52/52 [00:02<00:00, 2
0.09it/s]
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:09<00:00, 6
5.98it/s]
INFO - sat_3 - Iteration 7 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:09<00:00, 6
5.22it/s]
INFO - sat_3 - Iteration 8 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:09<00:00, 6
6.22it/s]
INFO - sat_3 - Iteration 9 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:09<00:00, 6
4.20it/s]
INFO - sat_3 - Iteration 10 of 35
INFO - Generating alignments...
100%|███████████████████████████████████| 617/618 [00:14<00:00, 4
3.22it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                         aligner.
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:09<00:00, 6
4.52it/s]
INFO - sat_3 - Iteration 11 of 35
INFO - Accumulating statistics...
100%|███████████████████████████████████| 618/618 [00:09<00:00, 6
```

```
5.35it/s]
INFO - sat_3 - Iteration 12 of 35
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████| 52/52 [00:02<00:00, 2
0.10it/s]
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:09<00:00, 6
3.96it/s]
INFO - sat_3 - Iteration 13 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:09<00:00, 6
5.42it/s]
INFO - sat_3 - Iteration 14 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:09<00:00, 6
3.48it/s]
INFO - sat_3 - Iteration 15 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
0.02it/s]
INFO - sat_3 - Iteration 16 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:09<00:00, 6
3.49it/s]
INFO - sat_3 - Iteration 17 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:09<00:00, 6
2.39it/s]
INFO - sat_3 - Iteration 18 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:09<00:00, 6
2.38it/s]
INFO - sat_3 - Iteration 19 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
1.33it/s]
INFO - sat_3 - Iteration 20 of 35
INFO - Generating alignments...
100%|████████████████████████████████████| 617/618 [00:11<00:00, 5
5.78it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                        aligner.
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 5
9.95it/s]
INFO - sat_3 - Iteration 21 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
0.59it/s]
INFO - sat_3 - Iteration 22 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
1.22it/s]
INFO - sat_3 - Iteration 23 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
1.34it/s]
INFO - sat_3 - Iteration 24 of 35
INFO - Accumulating statistics...
```

```
100%|████████████████████████████████████| 618/618 [00:10<00:00, 5
9.86it/s]
INFO - sat_3 - Iteration 25 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
0.63it/s]
INFO - sat_3 - Iteration 26 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 5
9.65it/s]
INFO - sat_3 - Iteration 27 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
0.28it/s]
INFO - sat_3 - Iteration 28 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
0.24it/s]
INFO - sat_3 - Iteration 29 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
1.14it/s]
INFO - sat_3 - Iteration 30 of 35
INFO - Generating alignments...
100%|████████████████████████████████████| 617/618 [00:11<00:00, 5
3.47it/s]
WARNING - No files were aligned, this likely indicates serious problems
with the
                    aligner.
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
1.03it/s]
INFO - sat_3 - Iteration 31 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
0.79it/s]
INFO - sat_3 - Iteration 32 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 5
9.48it/s]
INFO - sat_3 - Iteration 33 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
1.46it/s]
INFO - sat_3 - Iteration 34 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
0.62it/s]
INFO - sat_3 - Iteration 35 of 35
INFO - Accumulating statistics...
100%|████████████████████████████████████| 618/618 [00:10<00:00, 6
0.94it/s]
INFO - Creating alignment model for speaker-independent features...
100%|████████████████████████████████████| 617/618 [00:11<00:00, 5
5.70it/s]
INFO - Training complete!
INFO - Exiting training early to save time as the corpus is below the s
ubset
                    size for later training stages
INFO - Compiling training graphs...
```

```
100%|████████████████████████████████████| 618/618 [00:01<00:00, 45
9.26it/s]
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:12<00:00, 5
1.02it/s]
INFO - Calculating fMLLR for speaker adaptation...
100%|█████████████████████████████████████| 52/52 [00:02<00:00, 2
0.32it/s]
INFO - Generating alignments...
100%|████████████████████████████████████| 618/618 [00:11<00:00, 5
5.82it/s]
INFO - Accumulating transition stats...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 56
6.63it/s]
INFO - Finished accumulating transition stats!
  0%|                              | 0/618 [00:00
<?, ?it/s]INFO - Collecting phone and word alignments from sat_3_ali la
ttices...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 32
7.69it/s]
INFO - Beginning phone LM training...
INFO - Collecting training data...
100%|████████████████████████████████████| 618/618 [00:01<00:00, 58
8.33it/s]
INFO - Training model...
INFO - Completed training in 1449.2726023197174 seconds!
INFO - Saved model to /home/philipp/Workspace/corpora/My_Basque_AC_mode
l2.zip
INFO - Done! Everything took 1469.613 seconds
```

After the acoustic model training is complete, we align our multi-spaker data using the new acoustic model:

In [9]: `!mfa align --clean ~/Workspace/corpora/Basque_multi-speaker_dataset/ ba`

```
INFO - Setting up corpus information...
INFO - Loading corpus from source files...
618it [00:01, 533.62it/s]
INFO - Found 52 speakers across 618 files, average number of utterances
per
                speaker: 11.884615384615385
INFO - Initializing multiprocessing jobs...
INFO - Normalizing text...
100%|████████████████████████████████████████| 618/618 [00:01<00:00, 32
0.70it/s]
INFO - Creating corpus split for feature generation...
100%|████████████████████████████████████████| 1236/1236 [00:01<00:00, 115
9.30it/s]
INFO - Generating MFCCs...
620it [00:07, 85.96it/s]
INFO - Calculating CMVN...
INFO - Generating final features...
100%|████████████████████████████████████████| 618/618 [00:01<00:00, 48
4.50it/s]
INFO - Creating corpus split with features...
100%|████████████████████████████████████████| 618/618 [00:01<00:00, 49
7.18it/s]
INFO - Compiling training graphs...
100%|████████████████████████████████████████| 618/618 [00:01<00:00, 45
5.11it/s]
INFO - Performing first-pass alignment...
INFO - Generating alignments...
100%|████████████████████████████████████████| 618/618 [00:11<00:00, 5
4.94it/s]
INFO - Calculating fMLLR for speaker adaptation...
100%|████████████████████████████████████████| 52/52 [00:02<00:00, 1
9.90it/s]
INFO - Performing second-pass alignment...
INFO - Generating alignments...
100%|████████████████████████████████████████| 617/618 [00:11<00:00, 5
4.96it/s]
  0%|                                          | 0/618 [00:00
<?, ?it/s]INFO - Collecting phone and word alignments from alignment la
ttices...
100%|████████████████████████████████████████| 617/618 [00:01<00:00, 31
7.67it/s]
INFO - Exporting alignment TextGrids to
                /home/philipp/Workspace/corpora/Basque_multi-
                speaker_alignments...
  0%|                                          | 0/618 [00:00
<?, ?it/s]Exception during reset or similar
Traceback (most recent call last):
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/pool/base.py", line 991, in _finalize_fairy
    fairy._reset(
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/pool/base.py", line 1440, in _reset
    pool._dialect.do_rollback(self)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/default.py", line 657, in do_rollback
    dbapi_connection.rollback()
psycopg2.OperationalError: server closed the connection unexpectedly
        This probably means the server terminated abnormally
        before or while processing the request.
```

Exception during reset or similar
Traceback (most recent call last):
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/pool/base.py", line 991, in _finalize_fairy
    fairy._reset(
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/pool/base.py", line 1440, in _reset
    pool._dialect.do_rollback(self)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/default.py", line 657, in do_rollback
    dbapi_connection.rollback()
psycopg2.OperationalError: server closed the connection unexpectedly
        This probably means the server terminated abnormally
        before or while processing the request.

100%|████████████████████████████████████| 618/618 [00:02<00:00, 26
5.23it/s]
INFO - Finished exporting TextGrids to
                /home/philipp/Workspace/corpora/Basque_multi-speaker_al
ignments!
Exception ignored in atexit callback: <bound method ExitHooks.history_s
ave_handler of <montreal_forced_aligner.command_line.mfa.ExitHooks obje
ct at 0x7fa257467fa0>>
Traceback (most recent call last):
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/montreal_forced_aligner/command_line/mfa.py", line 95, in history_
save_handler
    raise self.exception
  File "/home/philipp/anaconda3/envs/mfaligner/bin/mfa", line 11, in <m
odule>
    sys.exit(mfa_cli())
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/click/core.py", line 1130, in __call__
    return self.main(*args, **kwargs)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/click/core.py", line 1055, in main
    rv = self.invoke(ctx)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/click/core.py", line 1657, in invoke
    return _process_result(sub_ctx.command.invoke(sub_ctx))
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/click/core.py", line 1404, in invoke
    return ctx.invoke(self.callback, **ctx.params)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/click/core.py", line 760, in invoke
    return __callback(*args, **kwargs)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/click/decorators.py", line 26, in new_func
    return f(get_current_context(), *args, **kwargs)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/montreal_forced_aligner/command_line/align.py", line 158, in align
_corpus_cli
    aligner.cleanup()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/montreal_forced_aligner/abc.py", line 620, in cleanup
    sqlalchemy.orm.session.close_all_sessions()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/orm/session.py", line 4977, in close_all_sessions
    sess.close()
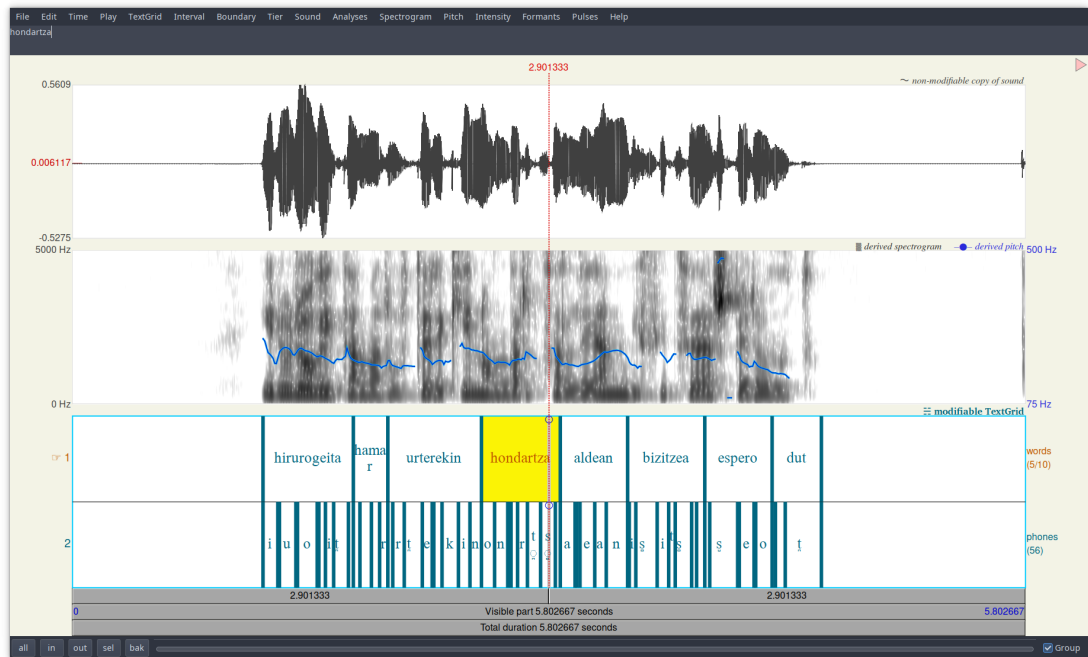 File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack

```
ages/sqlalchemy/orm/session.py", line 2380, in close
    self._close_impl(invalidate=False)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/orm/session.py", line 2422, in _close_impl
    transaction.close(invalidate)
  File "<string>", line 2, in close
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/orm/state_changes.py", line 137, in _go
    ret_value = fn(self, *arg, **kw)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/orm/session.py", line 1327, in close
    transaction.close()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 2559, in close
    self._do_close()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 2697, in _do_close
    self._close_impl()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 2683, in _close_impl
    self._connection_rollback_impl()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 2675, in _connection_rollback_imp
l
    self.connection._rollback_impl()
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 1118, in _rollback_impl
    self._handle_dbapi_exception(e, None, None, None, None)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 2326, in _handle_dbapi_exception
    raise sqlalchemy_exception.with_traceback(exc_info[2]) from e
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/base.py", line 1116, in _rollback_impl
    self.engine.dialect.do_rollback(self.connection)
  File "/home/philipp/anaconda3/envs/mfaligner/lib/python3.10/site-pack
ages/sqlalchemy/engine/default.py", line 657, in do_rollback
    dbapi_connection.rollback()
sqlalchemy.exc.OperationalError: (psycopg2.OperationalError) server clo
sed the connection unexpectedly
        This probably means the server terminated abnormally
        before or while processing the request.

(Background on this error at: https://sqlalche.me/e/20/e3q8)
```

The resultsing TextGrids look like this:

And this is way better than the alignments we had before. However, if you inspect the TextGrids in more detail, you will see that the phone alignments are far from being perfect. There are multiple reasons for this: First, the aligner was run with the standard settings for training. The acoustic model and the following aligning procedure can be improved by modifying these settings. We did not talk about this so far, but if you are interested, see here. Anyway, the standard settings should be sufficient in most cases. A second reason is that although we used at least 1 hour of data for training, more data is better. The last reason is that this data his highly variable, meaning that we have a lot of different utterances used for training. While this is good especially if we have more data, it may be a disadvantage with a comparatively small dataset. However, if you have a lot of data from an experiment, 1 hour may be sufficient since there is not that much variability in the training data.