OS: MacOS
Disclaimer: I used Google and ChatGPT when I got stuck.

I used the following commands. Many times, it failed, but below all worked.

```
# From any shell
conda deactivate 2>/dev/null || true

# Create an env that *forces* arm builds for this one command
CONDA_SUBDIR=osx-arm64 conda create -n mfa-arm -c conda-forge -y \
  python=3.10 montreal-forced-aligner=3.3.8 llvm-openmp

conda activate mfa-arm
which python
python -V

# make sure you install into THIS python
python -m pip install --upgrade pip
python -m pip install textgrid


# Persist the ARM64 setting inside this env so future installs stay arm64
conda config --env --set subdir osx-arm64

alias mfa="python -m montreal_forced_aligner"
mfa version
mfa model download acoustic english_us_arpa
mfa model download dictionary english_us_arpa

mfa validate corpus
~/Documents/MFA/pretrained_models/dictionary/english_mfa.
dict

 Usage: python -m montreal_forced_aligner align [OPTIONS]
CORPUS_DIRECTORY DICTIONARY_PATH ACOUSTIC_MODEL_PATH
OUTPUT_DIRECTORY
```

```
mfa align ~/Downloads/Assignment/corpus
~/Documents/MFA/pretrained_models/dictionary/english_mfa.
dict
~/Documents/MFA/pretrained_models/acoustic/english_mfa
~/Downloads/Assignment/aligned
```

This created following files as below:
cd aligned/speaker1 [from inside Assignment folder do cd]
ls
F2BJRLP1.TextGrid
ISLE_SESS0131_BLOCKD02_01_sprt1.TextGrid
F2BJRLP2.TextGrid
ISLE_SESS0131_BLOCKD02_02_sprt1.TextGrid
F2BJRLP3.TextGrid
ISLE_SESS0131_BLOCKD02_03_sprt1.TextGrid

Installed prat to see the textgrid file but later realised that i can see whats inside thse files using a text editor
Consider F2BJRLP2.TextGrid (GENERATED SNAPSHOT CSV FILE FOR THIS AS BELOW)

F2BJRLP2.words

start_s	end_s	duration_s	label
0.000000	0.170000	0.170000	in
0.170000	0.540000	0.370000	nineteen
0.540000	0.910000	0.370000	seventy
0.910000	1.380000	0.470000	six
1.380000	2.050000	0.670000	democratic
2.050000	2.410000	0.360000	governor
2.410000	2.750000	0.340000	michael
2.750000	3.350000	0.600000	<unk>
3.630000	4.060000	0.430000	fulfilled
4.060000	4.120000	0.060000	a
4.120000	4.670000	0.550000	campaign
4.670000	5.220000	0.550000	promise
5.290000	5.410000	0.120000	to
5.410000	5.570000	0.160000	de
5.570000	6.520000	0.950000	politicize
6.520000	7.050000	0.530000	judicial
7.050000	7.760000	0.710000	appointments
7.790000	8.160000	0.370000	he
8.160000	8.500000	0.340000	named
8.500000	9.180000	0.680000	republican

.....
<All words as intervals[word] for every ‘word’ in the transcript
Each word (interval[i]) has start time, end time and text(word).
Interestingly some words are missing. For example in the above file, the word ‘**dukakis**’ is present in transcript but not present in the above corresponding TextGrid file (SEE THE CSV FILE WITH START TIME 2.75 TO 3.35 -> 9TH LINE WITH <UNK>).

THE CORRESPONDING TRANSCRIPT FILE HAS THE FOLLOWING

In nineteen seventy- six, Democratic Governor Michael Dukakis

fulfilled a campaign promise to de-politicize judicial appointments.

He named Republican Edward Hennessy to head the State Supreme

Judicial Court. For Hennessy, it was another step along a

distinguished career that began as a trial lawyer

and led to an appointment as associate Supreme Court

Justice in nineteen seventy- one. That year Thomas Maffy,

now president of the Massachusetts Bar Association, was Hennessy's

law clerk.

See the below:
NOTE: **export_textgrid_csv3.py is in /aligned/speaker1**

python export_textgrid_csv3.py ~/Downloads/Assignment/aligned
-> wrote speaker1/F2BJRLP2.words.csv
=> wrote speaker1/F2BJRLP2.phones.csv
F2BJRLP2: words=75, null=11, transcript_tokens=75, missing_in_alignment=1 -> ['dukakis'] → NULL means i see some blank words introduced into this textgrid file. In this transcript file,

there are 75 words, but in textgrid file, 1 word is missing(i dont know why the acoustic model is missing few wordS. I did not explore much. NULL includes the gaps between the end time and the next start time(may be the speaker pauses). For ex., see the line numbers 11, 14,19,24,28,31,41,47,49,61,72 in F2BJRLPU2.words.csv file and check with previous line numbers' end times. It does not continue with that end time of previous word. I think these are due to speaker pauses in between).

-> wrote speaker1/F2BJRLP3.words.csv
=> wrote speaker1/F2BJRLP3.phones.csv
F2BJRLP3: words=84, null=15, transcript_tokens=84, missing_in_alignment=1 -> ['judgeships']
-> wrote speaker1/ISLE_SESS0131_BLOCKD02_01_sprt1.words.csv
=> wrote speaker1/ISLE_SESS0131_BLOCKD02_01_sprt1.phones.csv
ISLE_SESS0131_BLOCKD02_01_sprt1: words=5, null=2, transcript_tokens=5, missing_in_alignment=0
-> wrote speaker1/ISLE_SESS0131_BLOCKD02_03_sprt1.words.csv
=> wrote speaker1/ISLE_SESS0131_BLOCKD02_03_sprt1.phones.csv
ISLE_SESS0131_BLOCKD02_03_sprt1: words=5, null=2, transcript_tokens=5, missing_in_alignment=0
-> wrote speaker1/ISLE_SESS0131_BLOCKD02_02_sprt1.words.csv
=> wrote speaker1/ISLE_SESS0131_BLOCKD02_02_sprt1.phones.csv
ISLE_SESS0131_BLOCKD02_02_sprt1: words=5, null=2, transcript_tokens=5, missing_in_alignment=0
-> wrote speaker1/F2BJRLP1.words.csv
=> wrote speaker1/F2BJRLP1.phones.csv
F2BJRLP1: words=72, null=12, transcript_tokens=72, missing_in_alignment=0