Montreal Forced Aligner (MFA) – Step-by-Step Guide with Error Fixes

This guide explains how to successfully perform forced alignment using the Montreal Forced Aligner (MFA). It includes the exact steps followed and solutions to common errors encountered during setup so that anyone can replicate the process smoothly.

1. Install Miniconda

1. Download Miniconda from the official website.
2. During installation, ensure you check the option 'Add Miniconda to PATH'.
3. Restart VS Code after installation.

2. Fix 'conda not recognized' Error

1. If the terminal cannot find conda, manually add these paths to Environment Variables → Path:
2. C:\Users\YourUsername\miniconda3
3. C:\Users\YourUsername\miniconda3\Scripts
4. C:\Users\YourUsername\miniconda3\condabin
5. Restart VS Code after updating.

3. Initialize Conda for PowerShell

1. Run: conda init powershell
2. Close and reopen VS Code.
3. Activate using: conda activate mfa

4. Create MFA Environment (Correct Method)

1. Avoid installing MFA with pip because it can cause missing dependency errors such as '_kalpy'.
2. Use the conda-forge channel instead:
3. conda create -n mfa -c conda-forge montreal-forced-aligner
4. Activate the environment: conda activate mfa
5. Verify installation: mfa version

5. Prepare Dataset

1. Create a dataset folder.
2. Ensure each audio file (.wav) has a matching transcript (.txt) with the EXACT same filename.
3. Example: speech1.wav and speech1.txt
4. Keep transcripts simple: uppercase text with no punctuation.

6. Download MFA Models

1. MFA does not auto-download models. Run:
2. mfa model download dictionary english_us_arpa
3. mfa model download acoustic english_us_arpa

7. Run Forced Alignment

1. Navigate to your project root folder and run:
2. mfa align dataset english_us_arpa english_us_arpa output
3. The process may take 5–15 minutes depending on dataset size.

8. Verify Output

1. Open the output folder.
2. Successful alignment generates .TextGrid files.
3. These files contain word-level and phoneme-level timestamps.

Common Errors and Fixes

1. Error: 'conda not recognized' → Add Miniconda to PATH.
2. Error: '_kalpy module not found' → Install MFA using conda-forge, not pip.
3. Error: 'PretrainedModelNotFoundError' → Download dictionary and acoustic models.
4. Environment not activating → Run 'conda init powershell' and restart terminal.
5. Alignment fails → Check filename matching between .wav and .txt files.

Conclusion

1. By following these steps, forced alignment can be completed successfully.
2. The generated TextGrid files confirm that the speech audio has been accurately aligned with transcripts.