

This is Synth

This Synthesizer can select the wav files in a folder and extract their power spectrum to create amplitude envelopes for the interpolated time scales based on sampling frequency independent MIDI file and saves the files in .m4a format.

Used methods

- Power Spectral Density Envelopes on harmonics of fundamental frequency of 110Hz == A2.
- Additive Synthesis
- Sound Volume Envelope Extraction for percussive elements
- Colored Noise Generation (external function)

Setup

- Add all folder and subfolders to the path
- Run main.m

Note : Each note power spectrum is extracted previously and added to the folder for efficiency. If desired, can again be synthesized through helper functions.