
Playing MIDI With Sound Effects

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Goal

Read in MIDI file, play it with pitch shifted sound effects

Technologies

MIDO - MIDI Interpreter

PyDub - Audio Editor

SciPy - Audio Analysis, FFT, and Pitch Shifting

Process

1. Read in MIDI files
 2. Read in Sound Effects for each channel
 3. For each note, warp each sound effect to match (pitch & time)
 4. Combine all Sound Effects together into one song
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In Other Words

Make a MIDI Player

Example - Real Instruments

Dvorak Humoresque

Twelve Bar Blues

Complications

Finding original pitch of sound effect

Weird MIDI - Handling MIDI Chords/Drums/Weird Message Types/note_off timing

Pre-process sound effects (multi-track)

Finding good sound effects - similar pitch, length

Trying Out Sounds

28 Instruments (3 good)

38 Sound Effects (4 good ones)

Example with Sound Effects

Twelve Bar Blues

Thanks
