



CMPE491 – Senior Project I

Project Proposal

Project Name

Voiceolation

URL:

voiceolation.github.io

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Description

Most people can produce music professionally or amateurishly at their homes, thanks to getting easy-to-use DAWs (Digital Audio Workstation) such as Ableton, FL Studio; their plugins, tutorials increased, diversified and DAWs became widespread. They - whether professional or not - require clean vocals to use in their music projects. Some tracks' vocal channels are unobtainable because of issues with record labels like copyright, lost files etc. or simply the song is being too old for having stems for vocals. In this project, our goal is to extract the vocals from all kinds of music tracks. We are aiming to use phase cancellation for extraction of a desired frequency range. Achieving the phase cancellation requires using time-frequency transform functions such as Fourier Transform to obtain frequency domain information and analyzing frequencies and then applying invert wave cycles to neutralize unwanted voices.

Although equivalent softwares exist, most of them lack isolating vocals perfectly or they are focused only on acoustic human voices despite modern music including vocaloids, stereo vocal channels, reverbs, or panned vocals. We intend to solve these problems and reach harder aspects of the isolation, like isolating vocals from the stereo mix in this project.