Related Materials

- Open sourced codebase for music source separation ([code,](#) [pretrained](#)).

- Open sourced codebase for general speech restoration ([code,](#) [pretrained](#)).

- A tool for PyTorch subband operations ([link](#)).

- A tool for sound event detection ([link](#)).

Overview

- **Music Source Separation (MSS)**

  - Introductions & Related works.

  - Motivation1: MSS empirical upper bounds.

  - Motivation2: Channel-wise subband feature.

  - Proposed model: *Channel-wise subband phase-aware ResUNet (CWS-PResUNet).*

- **Speech Enhancement (SE) topics.**

- **General Speech Quality Restoration (GSR)**

  - Introductions & Related works.

  - Motivation1: Single task speech restoration & weakness.

  - Motivation2: How human brains percept distorted speech signals.

  - Proposed model: *VoiceFixer*.