

# THE NOISE ENRICHER

Techlabs Project Idea

**IT'S THE OPPOSITE OF  
NOISE CANCELLATION!!!**



# The Noise Enricher

## PROBLEM

Sometimes, musicians, artists, and creative people encounter a phase of uncreativity. They want to produce something new, avantgarde, progressive, but they don't know where to start.

For creating music and sounds, they need something that intervenes their thoughts or thinking patterns.

## SOLUTION

The project idea is to provide an app that transforms the musicians own music and enriches it with novel sound structures using a neural network.

The musicians can upload their music, can define the style of transformation, and receive a modified sound sample they can implement in their music, building ensembles of it, creating sound structures and so on.

# The Noise Enricher

## BACKGROUND

Every audio file can be displayed as a spectrogram, and this spectrogram can be processed through neural networks. My idea is, that the input's spectrogram (musician's music) becomes enriched by a spectrogram generated by a neural network and then transformed back to a audio file.

The neural networks spectrograms will be generated through classifying different sounds and then retrieved.

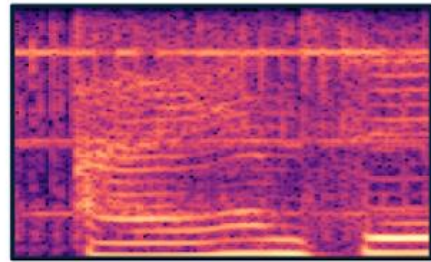
## EXAMPLE

Neural Network is trained on classifying different weather sounds (thunder, storm, rain). For every sound there is a certain spectrogram. The spectrogram of thunder is merged with the spectrogram of the input music sample.

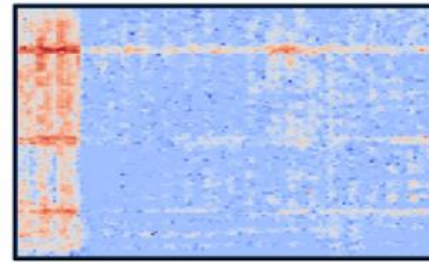
What would your music sound like, if it would express thunder?

MUSIC

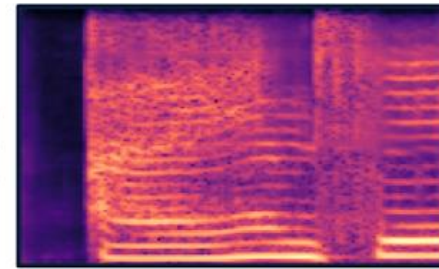
SOUND



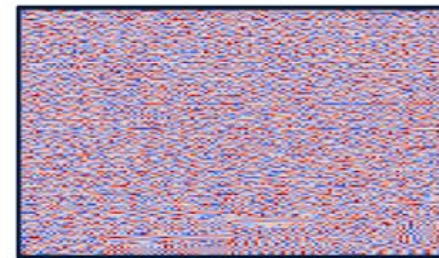
Input spectrogram



Noise Model predicted



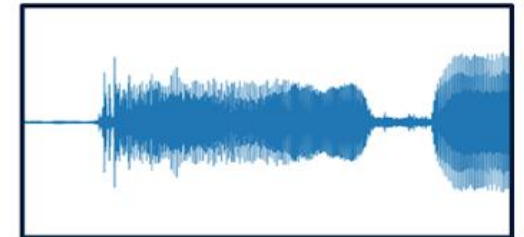
Denoised spectrogram



Input phase

ISTFT

ENRICHED  
MUSIC



Output signal

# The Noise Enricher

## PROMISES

To be honest, it is totally open whether the created sound samples will sound good. However, I think they will serve their purpose and support/ inspire the musicians.

## TIMELINE

Not really an idea. But, I think it would be necessary to have the neural network ready after 4-5 weeks, so we can spend time on improving the sounds if they lie below expectations.

## ALL TRACKS ARE WELCOME