**Important File to understand what the code says and how to tweak according to model development**

With this we are finally able to solve the issue of adding just the system generated augmented noise by adding the noise of our choice.

To add the noise, I have downloaded the noise from internet of the general situations and have added it with this pull request. The folder name is noise-train. The folder contains different types of noise like café, bus, traffic signals.

Now augmenting and creating spectrogram for each noise audio for each type of file would be a task, this will lead to a lot of computation being required and the disk space as well. So to deal with this I’ve

**Introduced a Parameter (n\_noises)**:

* Specify how many noise files to sample randomly for each clean audio file.

**Generate n\_noises Variants**:

* For each clean audio file, create n\_noises versions by augmenting it with n\_noises different noise files.
* Save a separate noisy audio file and spectrogram for each version.

With this the people training the model have the flexibility on their hand by which they can select how many type they want for each clean audio so that their model is trained efficiently.

Now about the code, what you need to do to run this:

Directly load the .py file.

Change the directories at the end of the code as follows:

1. Input\_dir- with the input for the clean audio
2. Output\_dir- with where you want the output for the noisy and clean spectrogram along with their audio. (I’ve added the audio as well that we’re generating after augmenting so that you can hear the audio as well and see if you need to increase or decrease, he noise\_factor or not)
3. noise\_dir- This will be the directory where you’ll store the noisy file, i.e the files I’ve added with this pull request

Other variables to keep in mind to give the people training the model flexibility:

1. nosie\_factor- This increases the noise in the background. I found 0.2 to be optimal, but you can play with it and find the one that best works for you. To help you visualize this, I’ve printed the audio files as well.
2. N\_noises- this variable will allow you to pick n random noises from the nopise\_train folder. This will help you manage the computation or the amount of data you need to train the model. In the code I have added n\_noise=1, you can change that to any no of values. But just keep in mind, this takes space and computation time as well.

**Kindly reach out to me in case of any concern or clarification of the code. With this I conclude the pre processing but if I need to improve this or add some more changes, kindly let me know.**