AudioRepr

Release 0.0.2

Lei Ma

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CONTENTS

A python package to represent data using musical notes. Similar to visualization packages, `audiorepr` takes in data and audiolize the data.

Here is a demo using a sample of covid19 data in Europe. The audio is the result of this package while the video is made with GarageBand. (See the tutorials for the code.)

Warning: This documentation is still a WIP.

CHAPTER

ONE

TUTORIALS

1.1 Audiorepr Tutorials

1.1.1 Installation

```
pip install audiorepr
```

1.1.2 Command Line

The package comes with a command line tool `audiorepr`.

The command line tool `audiorepr` has several options.

- `-d` or `--data`: file path to a csv file or url of a csv file.
- `-t` or `--target`: audio file to be save as.
- `-c` or `--column`: use a specific column from the dataset. This can be used as many times as one needs to include many columns. If not specified, all columns in the data will be used.

```
audiorepr create -d path_to_data.csv -t test_package.midi -c DE -c FR
```

Or using a csv file from a URL

```
audiorepr create -d https://gist.githubusercontent.com/emptymalei/
↪90869e811b4aa118a7d28a5944587a64/raw/1534670c8a3859ab3a6ae8e9ead6795248a3e664/ecdc
↪%2520covid%252019%2520data -t test_package.midi -c DE -c FR
```

1.1.3 Python

The module `audiolize` in `audiorepr` contains a function `audiolizer`. `audiolizer` is the primary function we will need for to generate our audio file.

- The parameter `pitch_columns` specifies which columns are being used to create the audio.

```
import pandas as pd
from audiorepr import audiolize

ecdc = "https://gist.githubusercontent.com/emptymalei/
↪90869e811b4aa118a7d28a5944587a64/raw/1534670c8a3859ab3a6ae8e9ead6795248a3e664/ecdc
↪%2520covid%252019%2520data"
```

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```
df = pd.read_csv(ecdc)

audiolize.audiolizer(df, target="ecdc-covid19-by-date.midi", pitch_columns=["DE", "AT
↪", "FR"])
```

CHAPTER

TWO

AUDIOLIZER MODULES

2.1 AudioRepr - audiolize

Documentation for *audiorepr.audiolize*

2.1.1 Audiolize

2.2 AudioRepr - data

Documentation for *audiorepr.data*

2.2.1 Data Transformation and Validation

2.3 AudioRepr - mapper

Documentation for *audiorepr.mapper*

2.3.1 Mapper Class

class audiorepr.mapper.**BaseMapper**(*pitch_min=None*, *pitch_max=None*, *data_min=None*, *data_max=None*, ***params*)

__init__(*pitch_min=None*, *pitch_max=None*, *data_min=None*, *data_max=None*, ***params*)
Initialize self. See help(type(self)) for accurate signature.

__weakref__
list of weak references to the object (if defined)

class audiorepr.mapper.**LinearMinMaxMapper**(*pitch_min=None*, *pitch_max=None*, *data_min=None*, *data_max=None*, ***params*)

__init__(*pitch_min=None*, *pitch_max=None*, *data_min=None*, *data_max=None*, ***params*)
Initialize self. See help(type(self)) for accurate signature.

2.4 AudioRepr - command

Documentation for *audiorepr.command*

CHAPTER

THREE

HISTORY

3.1 History

This is the CHANGELOG of the package.

3.1.1 [0.0.1] - 2020-12-24

Initialization of the project

CHAPTER

FOUR

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