Port Preprocessed Data to R

J.P. Meagher

20 October 2017

As MATLAB offered a far superior toolkit for preprocessing the echolocation calls, this preprocessing was done in that environment. The preprocessed spectrograms produced must now be ported into R for further analysis.

Packages

The key package here is the `R.matlab` package which allows the reading and writing of `mat` files.

The tidyverse and batwork packages are included as the spectrograms will be appended to the `mexican_bat_calls` dataset.

```
library(tidyverse)
library(R.matlab)
library(batwork)
library(magrittr)
```

Load Data

Convert the mat files to a list then extract the spectrograms into a list with a convenient format.

These columns will be concatenated with the `mexican_bat_calls` dataset and then saved for future reference.

```
df <- mexican_bat_calls

loc <- 'C:/Users/joe/Documents/MATLAB/ancestral-reconstruction'
full_fl <- 'preprocessed_full_spectrograms.mat'
thresh_fl <- 'preprocessed_thresholded_spectrograms.mat'

full <- readMat(paste(loc, full_fl, sep = '/')) %>%
  extract2(1) %>%
  lapply(extract2, 1) %>%
  lapply(extract, c(F, T), c(F, T))

thresholded <- readMat(paste(loc, thresh_fl, sep = '/')) %>%
  extract2(1) %>%
  lapply(extract2, 1) %>%
  lapply(extract, c(F, T), c(F, T))

df <- cbind(df, I(full), I(thresholded))

rm(full, full_fl, loc, thresh_fl, thresholded)

saveRDS(df, 'preprocessed_calls.RDS')
```