

EECS 207

Spring 2021

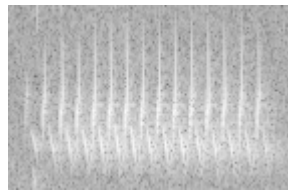
Course Project: Dataset

4/8/21

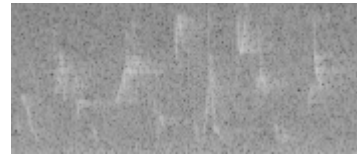
How to derive these images which are the spectrogram representations of bird calls.

target images

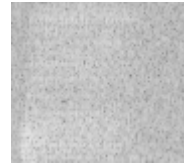
query



(DEJU)



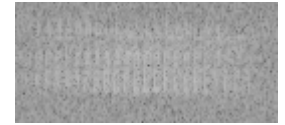
(WAVI)



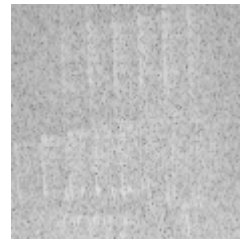
(SPTO)



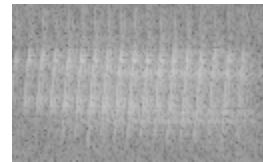
(PSFL)



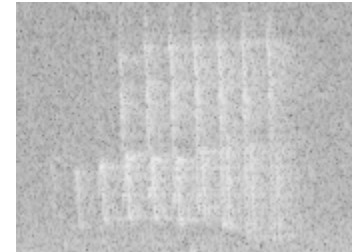
(DEJU)



(WIWA)



(DEJU)



(WIWA)



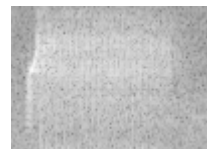
(PSFL)



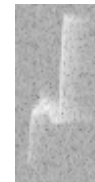
(SPTO)



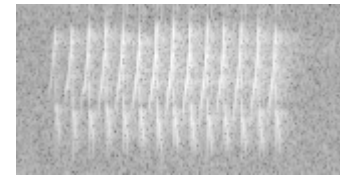
(WAVI)



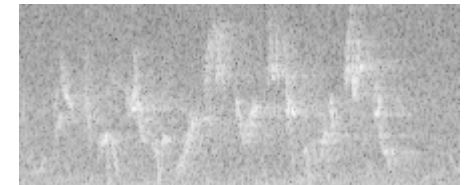
(SPTO)



(PSFL)



(DEJU)



(WAVI)

Project Dataset

- Focus on five birds:

Bird Short Name	Bird Full Name	# calls
DEJU	DEJU - Junco hyemalis.csv	26
PSFL	PSFL - Empidonax difficilis.csv	25
SPTO	SPTO - Pipilo maculatus.csv	37
WAVI	WAVI - Vireo gilvus.csv	58
WIWA	WIWA - Wilsonia pusilla.csv	72

- Dataset:
 - 170 minute-long audio files (.wav)
 - Information in .csv files of where in those audio clips the calls occur:
 - Start and stop times.
 - Upper and lower frequency bounds

Project Dataset

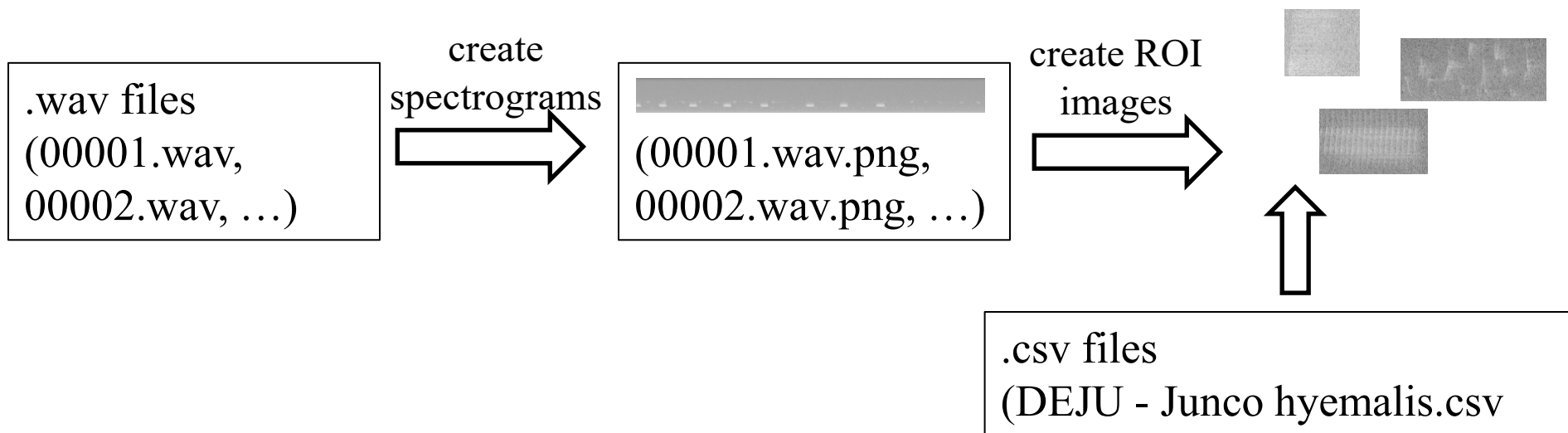
- Information in .csv files of where in those audio clips the calls occur:
- One .csv for each of five birds. Ex:
- “DEJU - Junco hyemalis.csv”

id	recording	species	songtype	x1	y1	x2	y2	dur	bw
10888	00000.wav	Junco hyemalis	Mechanical Song	35.24028	3452	37.19125	6554	2	3101.5
10889	00000.wav	Junco hyemalis	Mechanical Song	20.96016	3212	22.87596	6312	1.9	3100
10890	00000.wav	Junco hyemalis	Mechanical Song	8.591228	3572	10.65095	6584	2.1	3012.1
10891	00001.wav	Junco hyemalis	Mechanical Song	29.2048	3452	30.8094	7356	1.6	3903.4
10892	00001.wav	Junco hyemalis	Mechanical Song	9.075458	3418	10.51902	6957	1.4	3539.1

- Columns of interest:
 - recording: filename of minute-long .wav file.
 - x1, x2: start and stop times in seconds
 - y1, y2: lower and upper frequency bounds in Hz.

Project Dataset

- Generating spectrogram image patches from .wav audio files and .csv bird call files:



- We will now go over code to do this:
 - `compute_spectrogram.ipynb`
 - `identify_rois.ipynb`