

NYU MIR 2020 FALL

FINAL PROJECT PRESENTATION

MUSIC EMOTION RECOGNITION

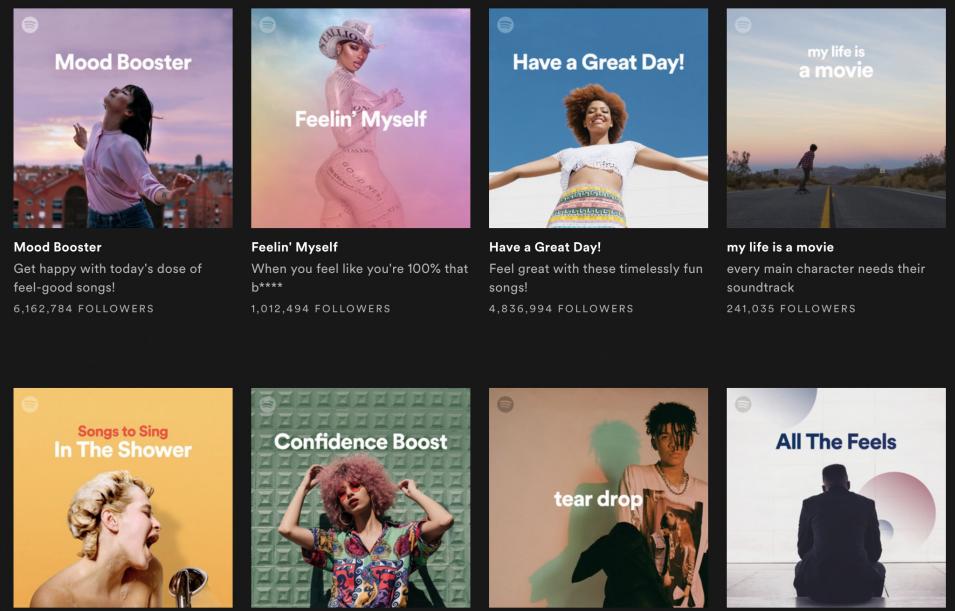
WITH DEEP NEURAL NETWORKS

Xiao Quan, Sylvie Sigi Dong

WHY ?

Mood

Popular playlists



KOMPLETE KONTROL

R A Z O R

Arcadian

Crystal House

Dark Noise

Dead Space

Decentre

Dome Of The Robots

Drop-out

Event Horizon

Fairytales

Instant Meditation

Intergalactic Ant

Lost Signals

Meg Oh

Planet 8

Replicant

Rizza

Rolling

Routine

Signal Aftertouch

Still Life

Strobe Trim

Subway Realms

Tape Delay

Bass **Bowed Strings** **Drums** **Guitar**

Mallet Instruments **Percussion** **Piano/Keys**

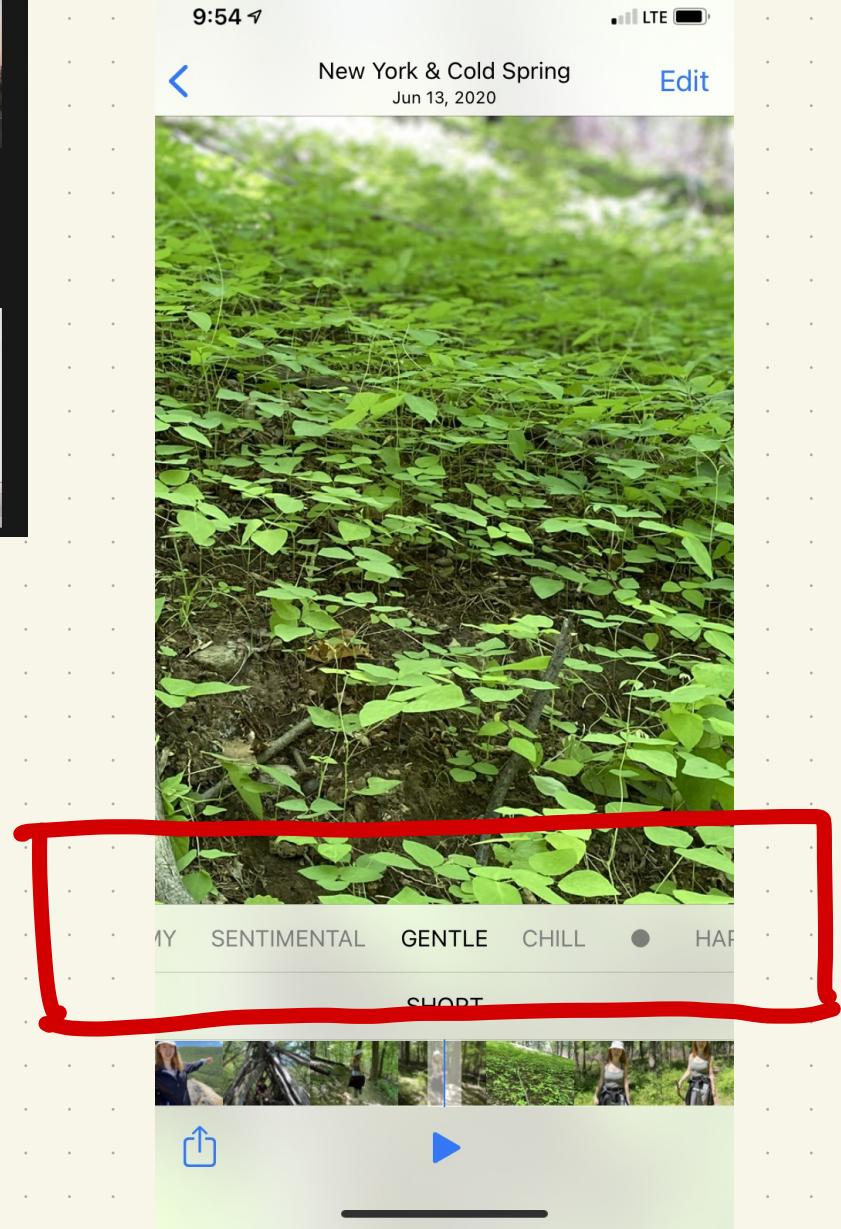
Plucked Strings **Sound Effects** **Soundscapes**

Synth Lead **Synth Misc** **Synth Pad**

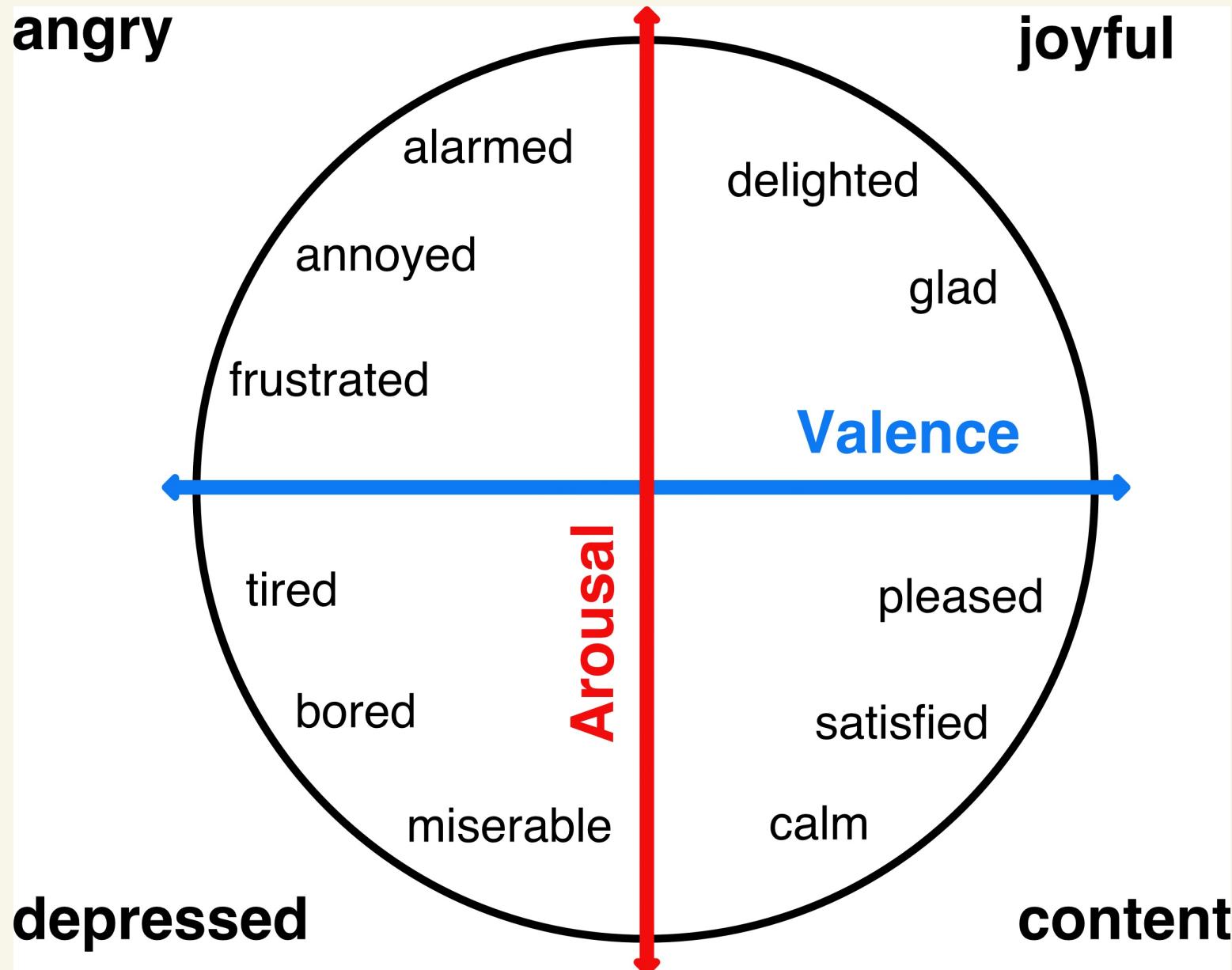
Ambivalent **Destructive** **Gloomy** **Heavenly**

Hypnotizing **Insanity** **Peaceful** **Wind & Noise**

Modes

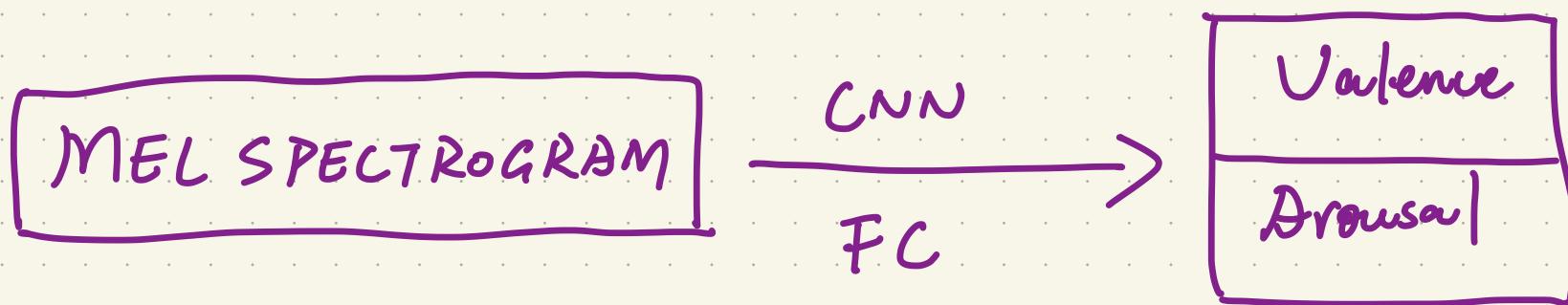


CHALLENGES



<Yang, X., Dong, Y., & Li, J. (2018). Review of data features-based music emotion recognition methods. *Multimedia systems*, 24(4), 365-389.>

OUR PROJECT



[deezer / deezer_mood_detection_dataset](#)

 [Code](#)

 [Pull requests](#)

 [Actions](#)

 [Security](#)

 [Insights](#)

 [master](#) 

 [1 branch](#)

 [0 tags](#)

 [Go to file](#)

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 [Code](#) 



[romi1502](#) Added CSV files. Added information in README.

9c6e1c5 on Oct 3, 2017  2 commits

 [README.md](#)

Added CSV files. Added information in README.

3 years ago

 [test.csv](#)

Added CSV files. Added information in README.

3 years ago

 [train.csv](#)

Added CSV files. Added information in README.

3 years ago

 [validation.csv](#)

Added CSV files. Added information in README.

3 years ago

[README.md](#)

deezer_mood_detection_dataset

A dataset of Valence/Arousal detection

For copyright reasons, it is not possible to make available audio and lyrics of the songs in the dataset. Then only deezer track ids and Million Song Dataset ids are provided as input of the task. The Million Song Dataset provides audio and lyrics features while the [Deezer API](#) provides metadata that might be used to retrieve audio or lyrics data from other sources.

Details are provided in the paper: "End-to-end Multimodal Music Mood Detection Based On Audio And Lyrics", Rémi Delbouys, Romain Hennequin, Francesco Piccoli.

https://github.com/deezer/deezer_mood_detection_dataset

NO AUDIO FILES ! 😞

train

dzr_sng_id	MSD_sng_id	MSD_track_id	valence	arousal	artist_name	track_name
213754	SORORTY12A67ADD67E	TRJIEJX12903CF2202	-0.682725080497	0.316757791845	Dark Tranquillity	Insanity's Crescendo
216752	SOVJXGK12A8AE4760C	TRLBHVY128F4242C31	-1.40040267563	1.53822894883	Anorexia Nervosa	Stabat mater dolorosa
239138	SOACXL12AB018218D	TRQJZHB128F92FA42D	-1.93524985679	-0.655809808621	Jimmy Witherspoon	Ain't Nobody's Business
254391	SOUTMGD12A8AE47448	TRCXLKK128F42366BF	0.815392789182	0.662457175897	Uniting Nations	Out Of Touch
266313	SOTITAA12A6D4F8DA4	TRPMWQM128F932C0C8	1.25746035728	1.086515087	The Walkmen	Brandy alexander
283306	SOCSRIF12AB018E4FC	TRABHPA12903CEC222	0.37332522108	-0.923150665621	Duke Ellington	Caravan
286183	SOCABAW12A8C135475	TRQQTKT128F426E347	1.30930778811	1.48291704738	Art Tatum	Tea For Two
301623	SORMYFP12D0219003E	TRDLPSL128F92FA016	1.07190113117	0.846830180724	Ella Fitzgerald	Lullaby Of Birdland
327203	SOOCXOM12AB018B8FF	TRQYIXF12903CA2DF3	-1.05657234488	0.736206377828	cLOUDDEAD	Pop Song
327207	SOOVKPF12AB018B916	TRTDTXN12903CA2DF9	-1.04838590843	0.335195092328	cLOUDDEAD	Son Of A Gun
364962	SOITJIQ12A8C13A291	TRPFENS128F92DF6C6	1.54125682076	1.70416465317	Boney M	Rasputin
365070	SOLBFZJ12A8C1445B8	TRBQSQG12903CBD7D3	-0.981530010788	0.62097324981	Leona Lewis	Better in time
365073	SOYMBQB12D021910E9	TRJQVNX128F425EA29	0.00766439314399	0.791518279276	Leona Lewis	I Will Be
365137	SOLMKTS12A8AE46C27	TRDHBPQ128F425EA1E	-0.569752257537	0.0319014993861	Leona Lewis	Bleeding Love
365268	SOFACKM12AB01845F4	TROTFCB12903CAC741	-1.70330082414	-0.628153857897	Mario	How Do I Breathe

```
1 import requests
2 import json
3
4 base_url = 'https://api.deezer.com/track/'
5
6 dzt_id_url = {}
7 count = 0
8
9 for ids in deezer_ids :
10     result = requests.get( base_url + str(ids) )
11     try:
12         dzt_id_url[ids] = result.json()['preview']
13     except:
14         pass
15     print("dzt id: ", ids, " url: ", dzt_id_url[ids])
16     print(count)
17     count += 1
```

executed in 50m 1s, finished 19:36:40 2020-12-04

→ Got URL
FROM API

Down-
LOADING

```
1 import wget
2
3 for dzt_id in list(dzt_id_url.keys()):
4     url = dzt_id_url[dzt_id]
5     if url != "":
6         try:
7             wget.download( url, "./deezer_mp3/{}.mp3".format(dzt_id) )
8             print("Downloading track: ", dzt_id )
9         except:
10             print("something's wrong")
11             pass
12
13
```

executed in 1h 28m 32s, finished 21:05:12 2020-12-04

Downloading track: 532171
Downloading track: 532216
Downloading track: 532284
Downloading track: 532989
Downloading track: 533164
Downloading track: 533922



deezer_mp3



Name	Date Modified	Size	Type
622787.mp3	Dec 4, 2020 at 7:53 PM	492 KB	MP3
622809.mp3	Dec 4, 2020 at 7:53 PM	492 KB	MP3
622871.mp3	Dec 4, 2020 at 7:53 PM	492 KB	MP3
622881.mp3	Dec 4, 2020 at 7:53 PM	492 KB	MP3
622882.mp3	Dec 4, 2020 at 7:53 PM	492 KB	MP3
622914.mp3	Dec 4, 2020 at 7:53 PM	492 KB	MP3
622916.mp3	Dec 4, 2020 at 7:53 PM	492 KB	MP3
623013.mp3	Dec 4, 2020 at 7:53 PM	492 KB	MP3
623060.mp3	Dec 4, 2020 at 8:46 PM	492 KB	MP3
623067.mp3			
623110.mp3			
623111.mp3			
623112.mp3			
623118.mp3			
623124.mp3			
623125.mp3			
623126.mp3			
623258.mp3			



deezer_mp3

7.04 GB, 14,317 items

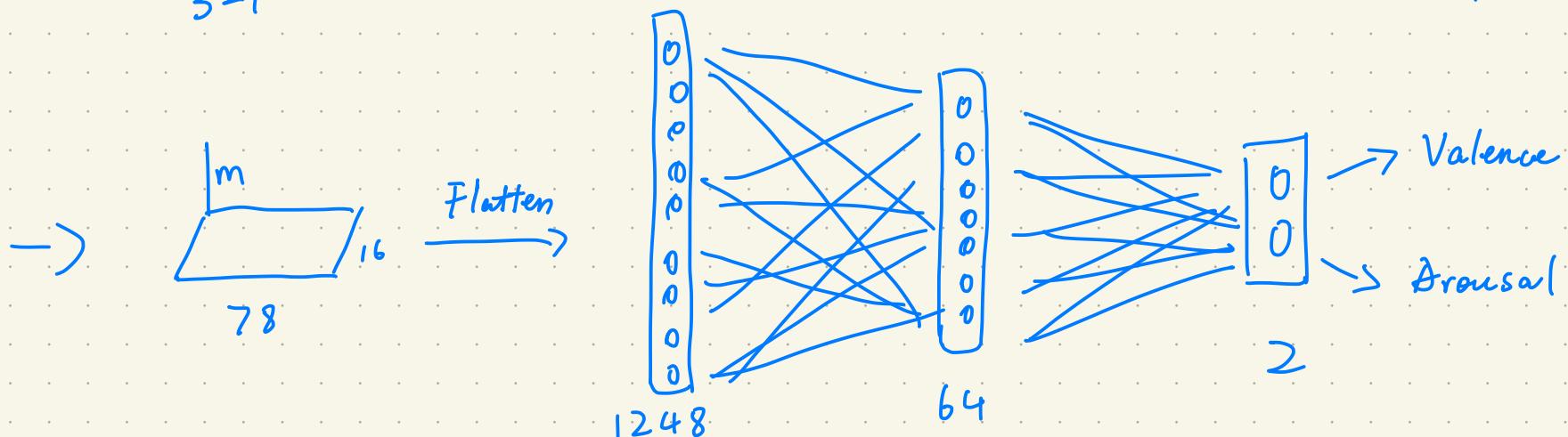
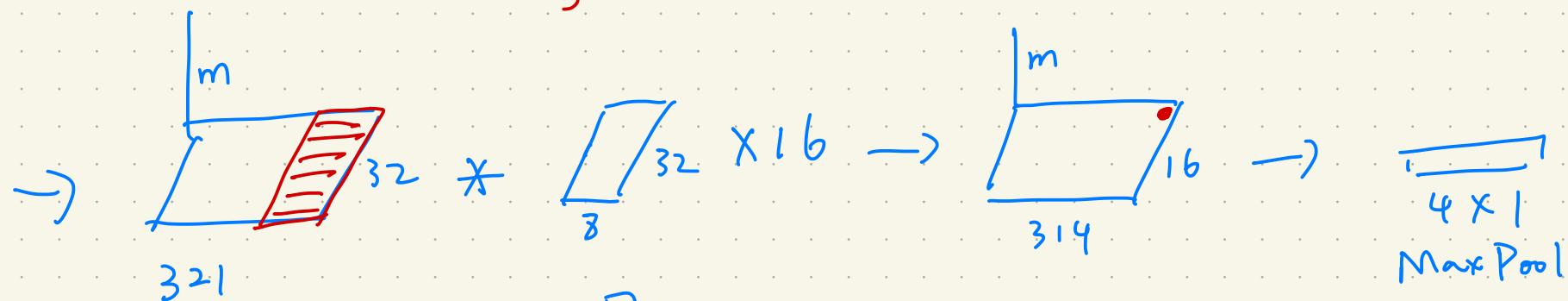
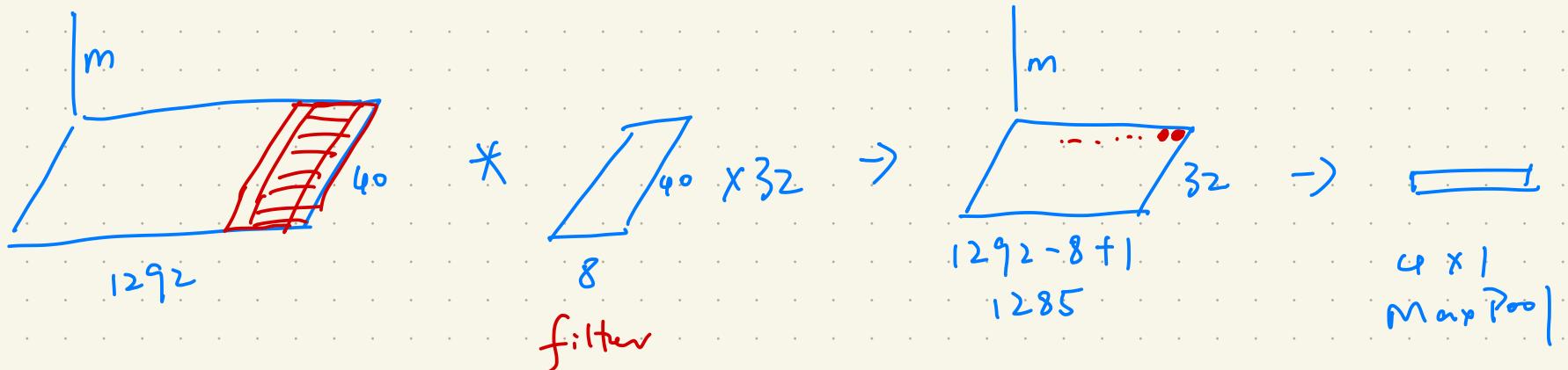
Last modified Dec 4, 2020 at 9:05:12 PM

IMPLEMENTATION

$$X : (m, 1292, 40) \rightarrow Y : (m, 2)$$

(Melspectrograms)

(Valence , Arousal)



CODE