

Kaggle 오디오 데이터를 이용한 소리 분류 모델

틀리는 문제는 왜 항상 틀릴까?

TEAM KYLius-method

<https://github.com/kyliusmethod/KYLius-method>

Member:

Seunghyuk-kim Sangwook-kwak Soowon-yoo Daegon-Lee

We do:

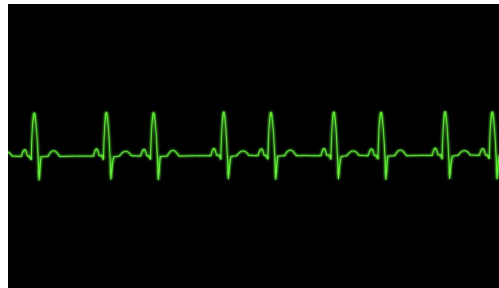
- Deep-dive into DEEP LEARNING
- Analyze all your data
- Research Neural-Network



목 차

오늘 알아볼 것들

1. DATA SET
2. Introduction to Sound processing
3. Data preprocessing(전처리)
4. Model
5. Ensemble
6. 결론



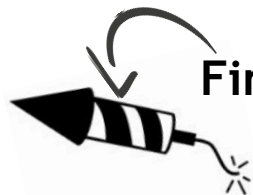
1. DATA



DATA



Trumpet



Firework



Cough!



Bus



Laughter

Sounds

41 Classes



Finger snap



Drum

Fart



Meow

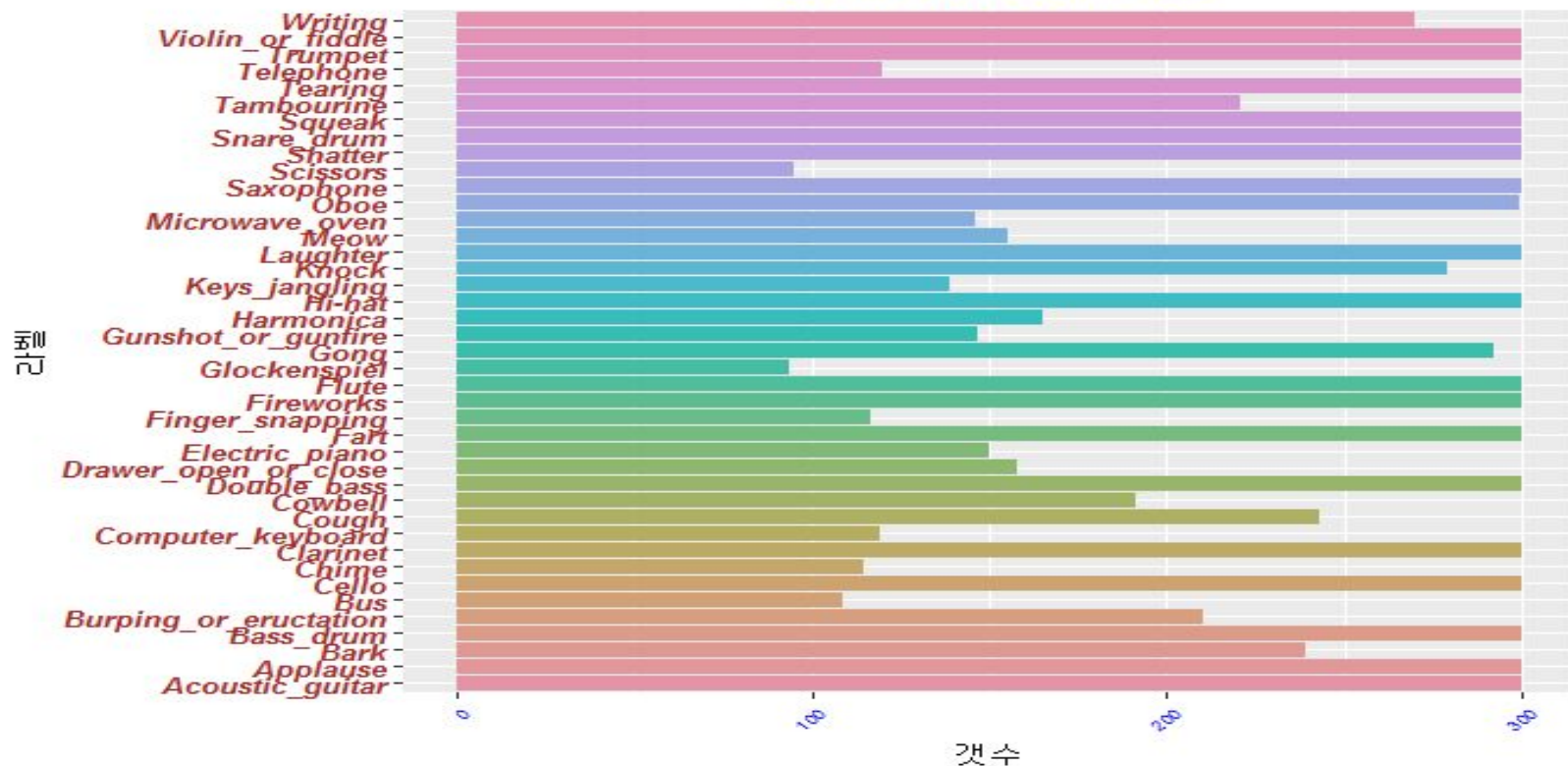


DATA

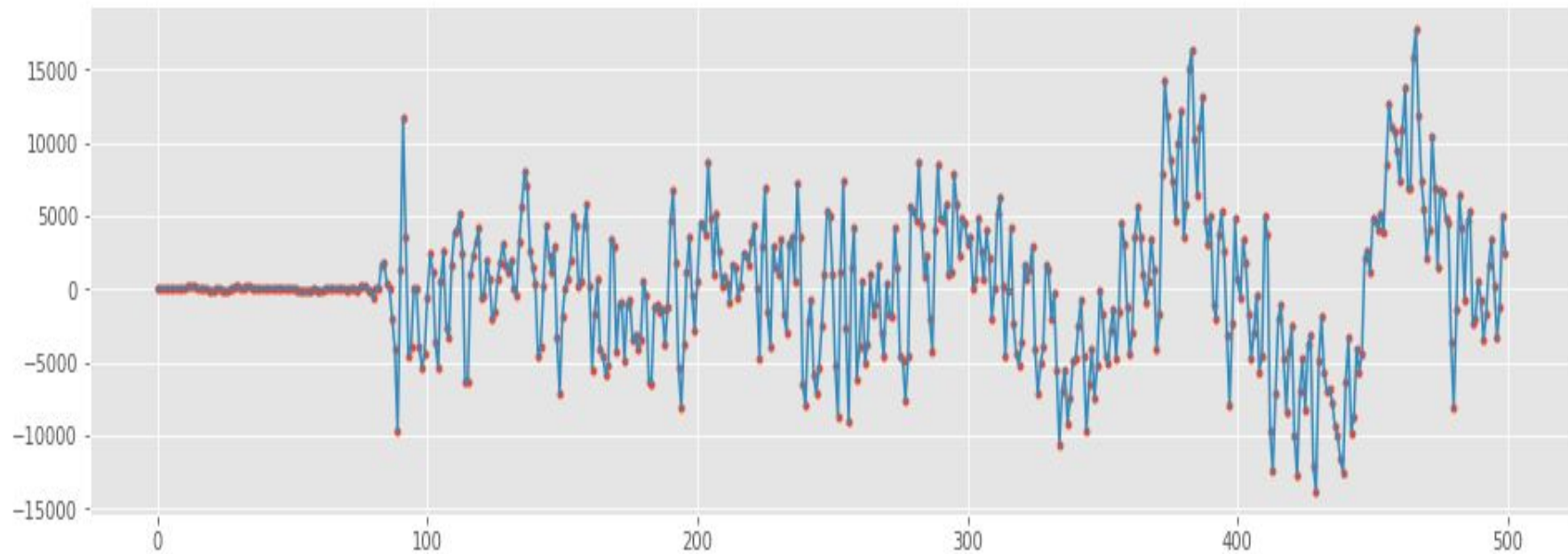


DATA

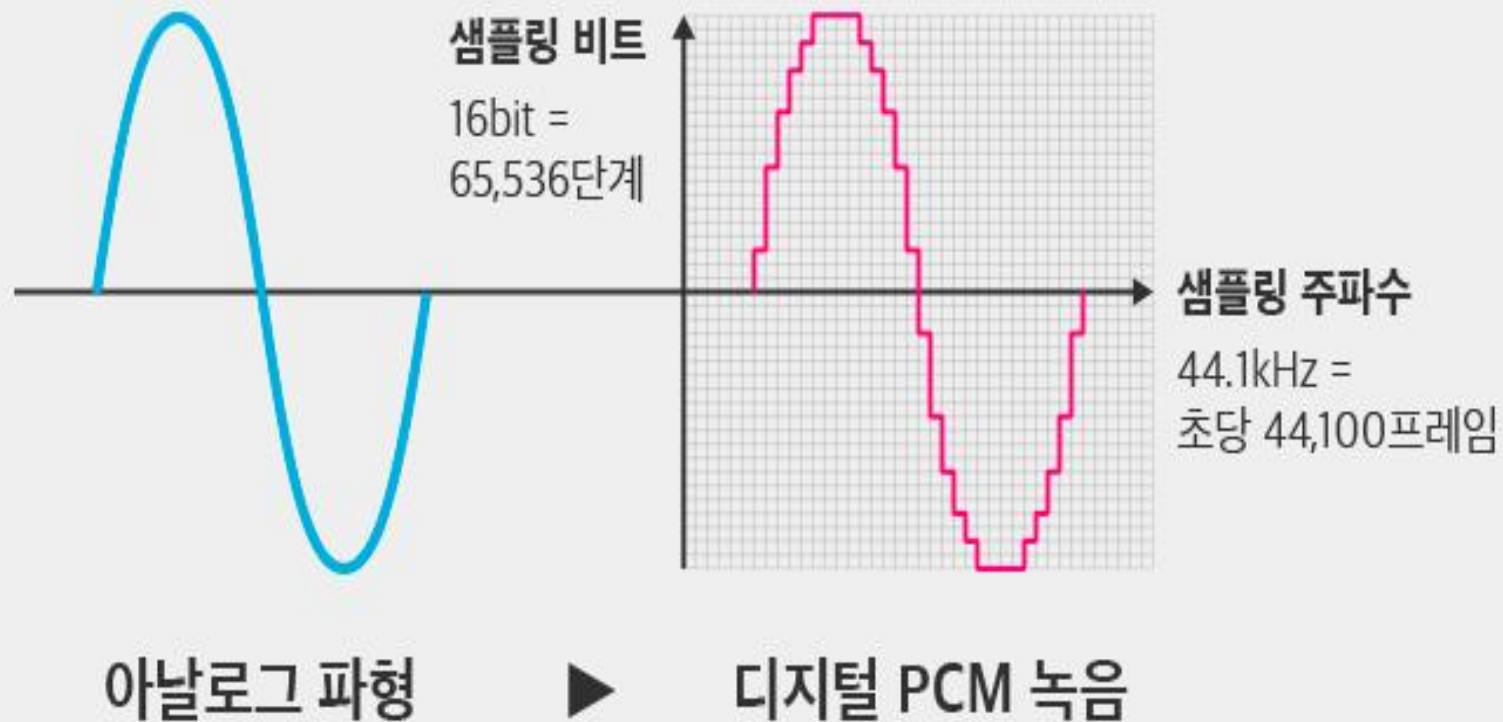
Sound Data 자료 현황



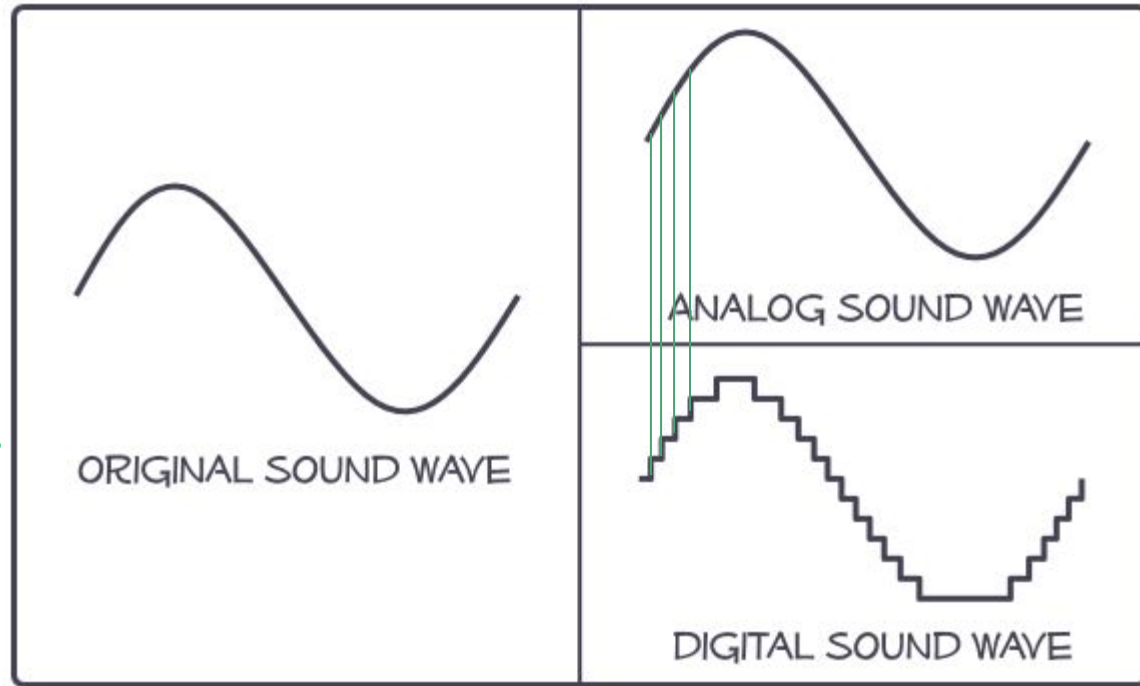
DATA



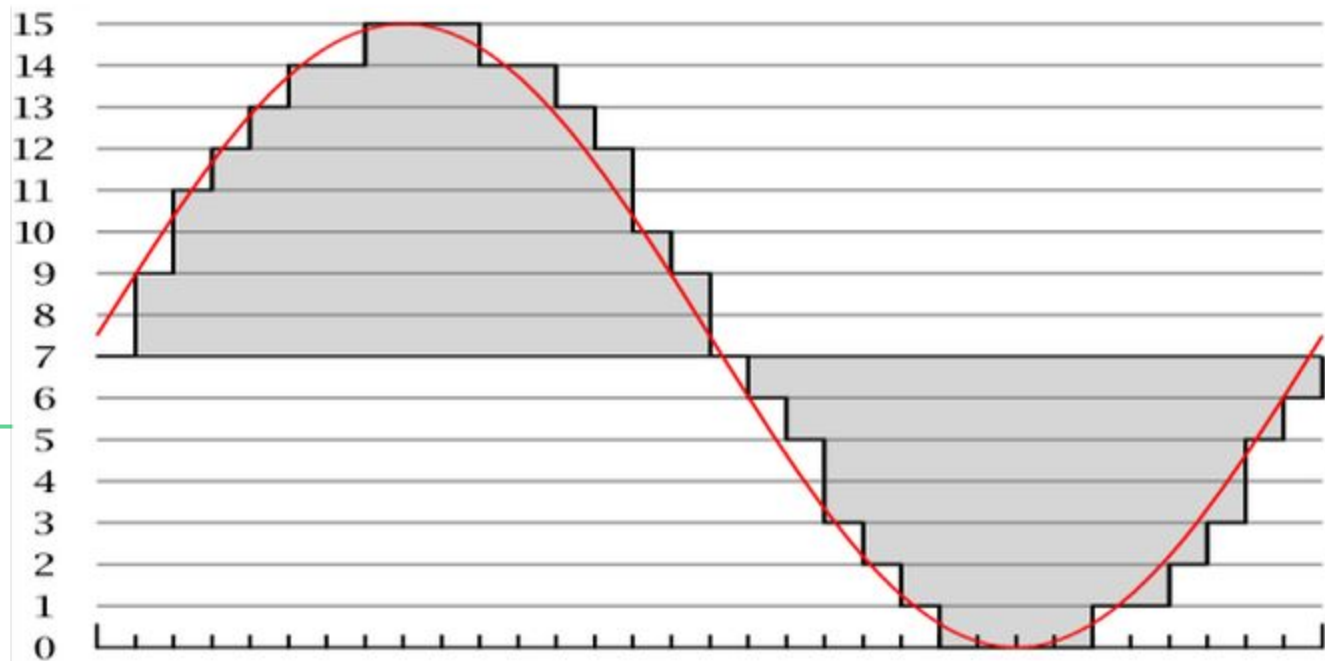
DATA



DATA

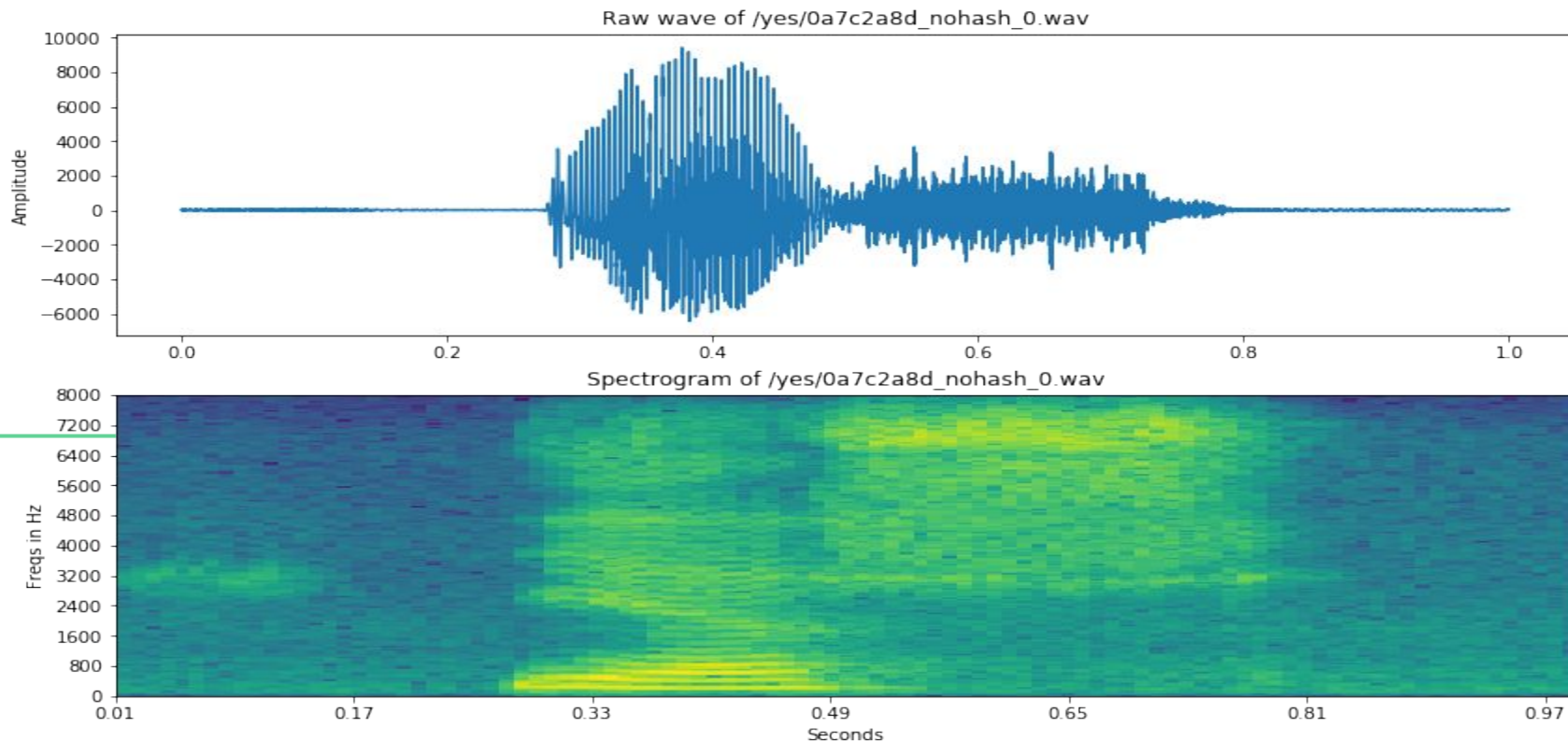


DATA

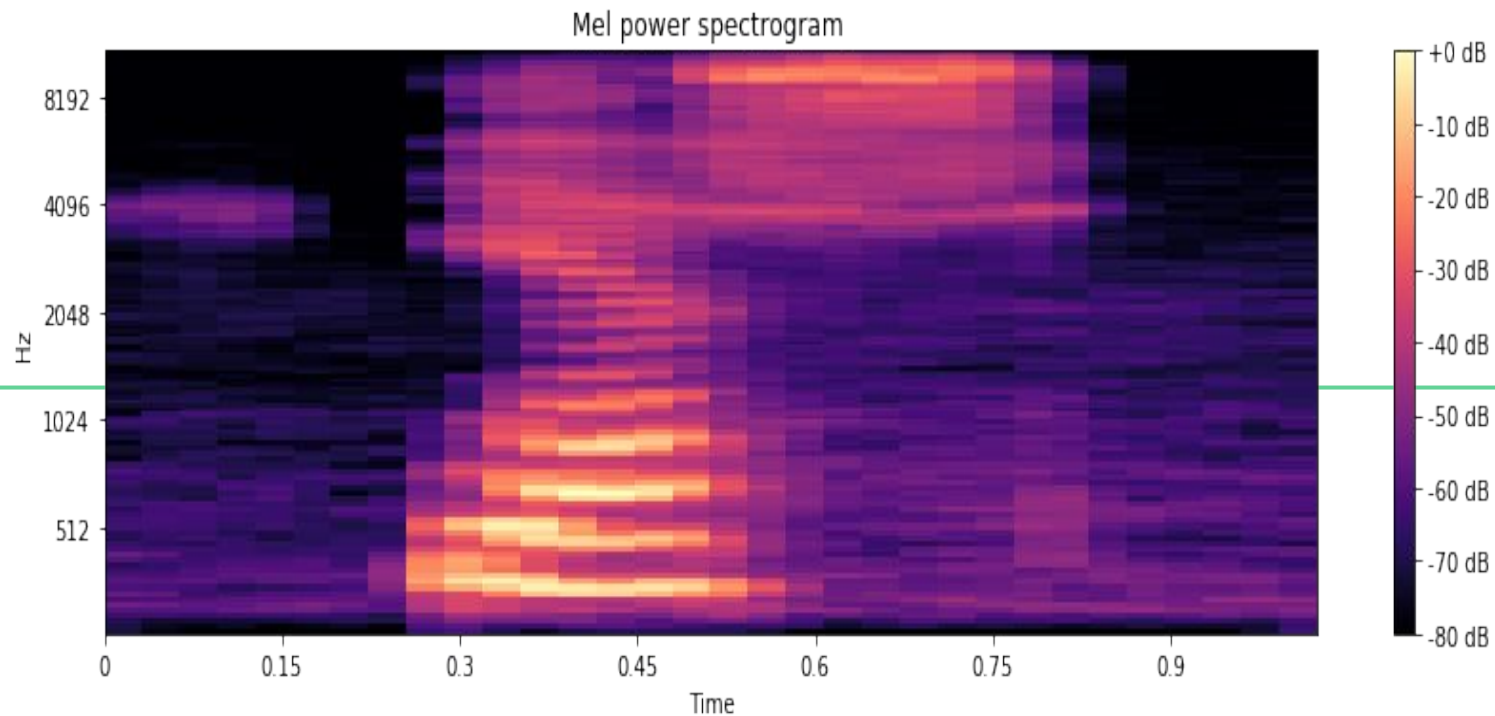


2. SOUND PROCESSING

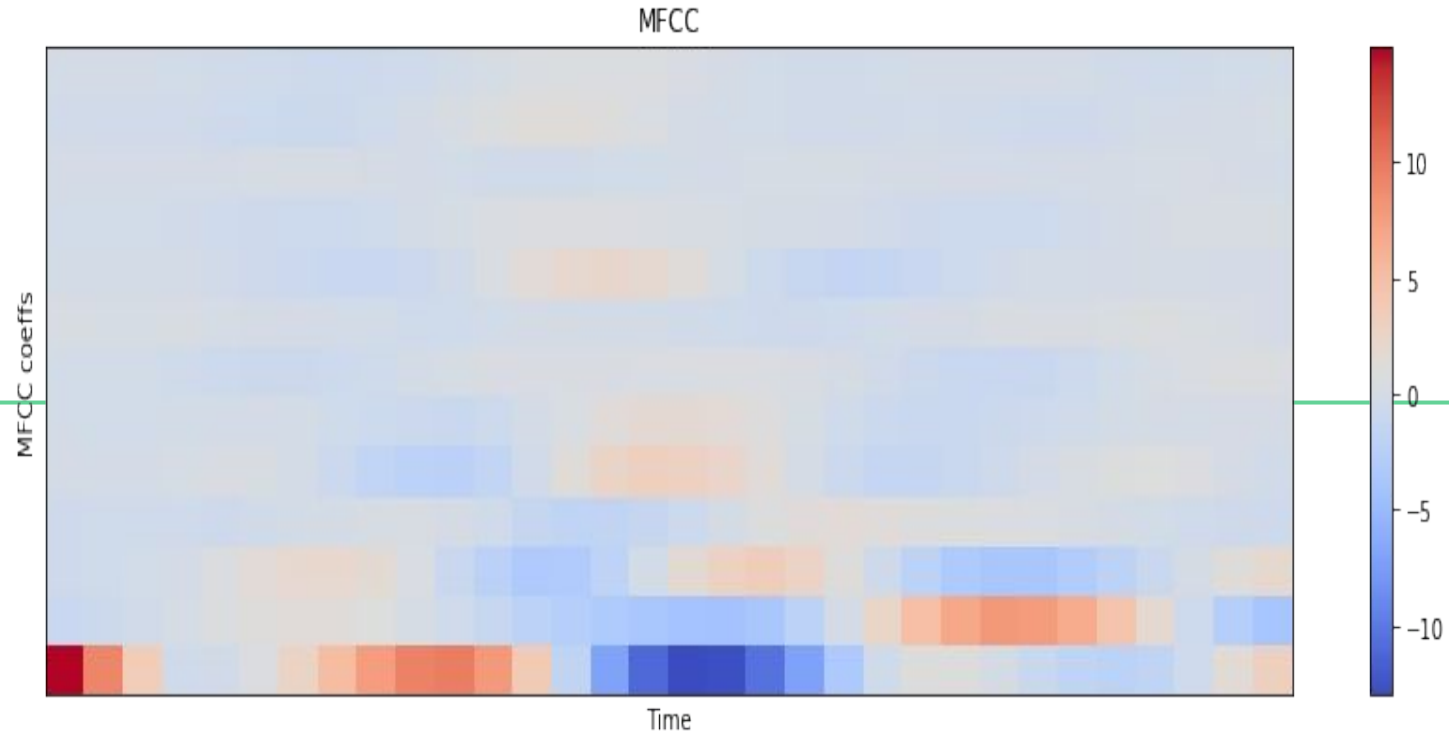
SOUND PROCESSING



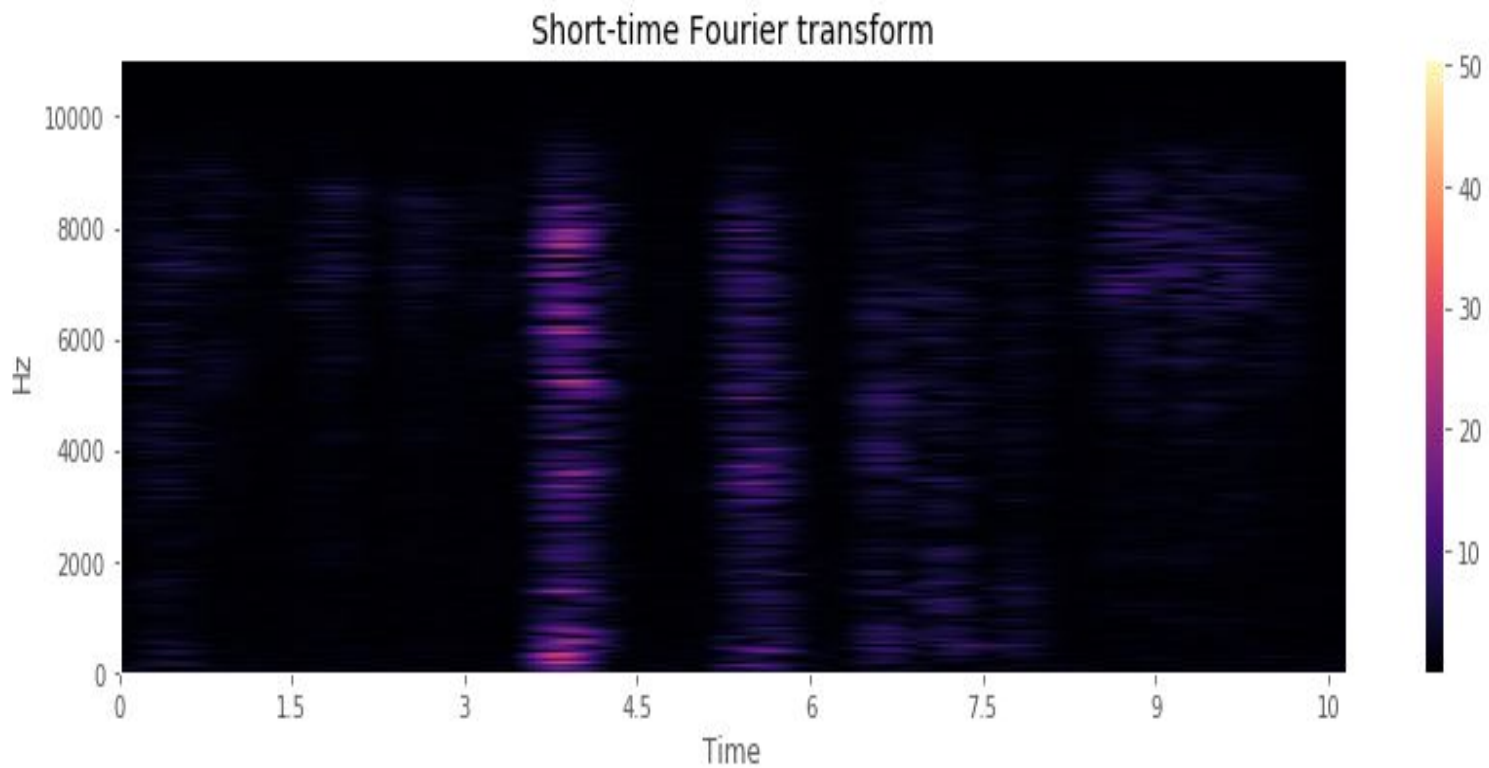
SOUND PROCESSING



SOUND PROCESSING



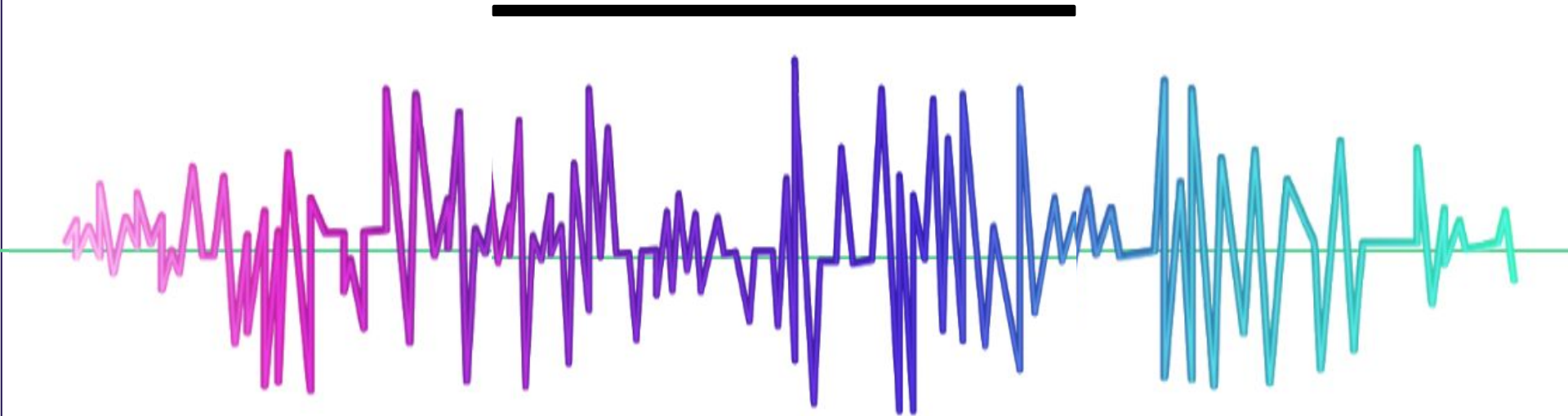
SOUND PROCESSING



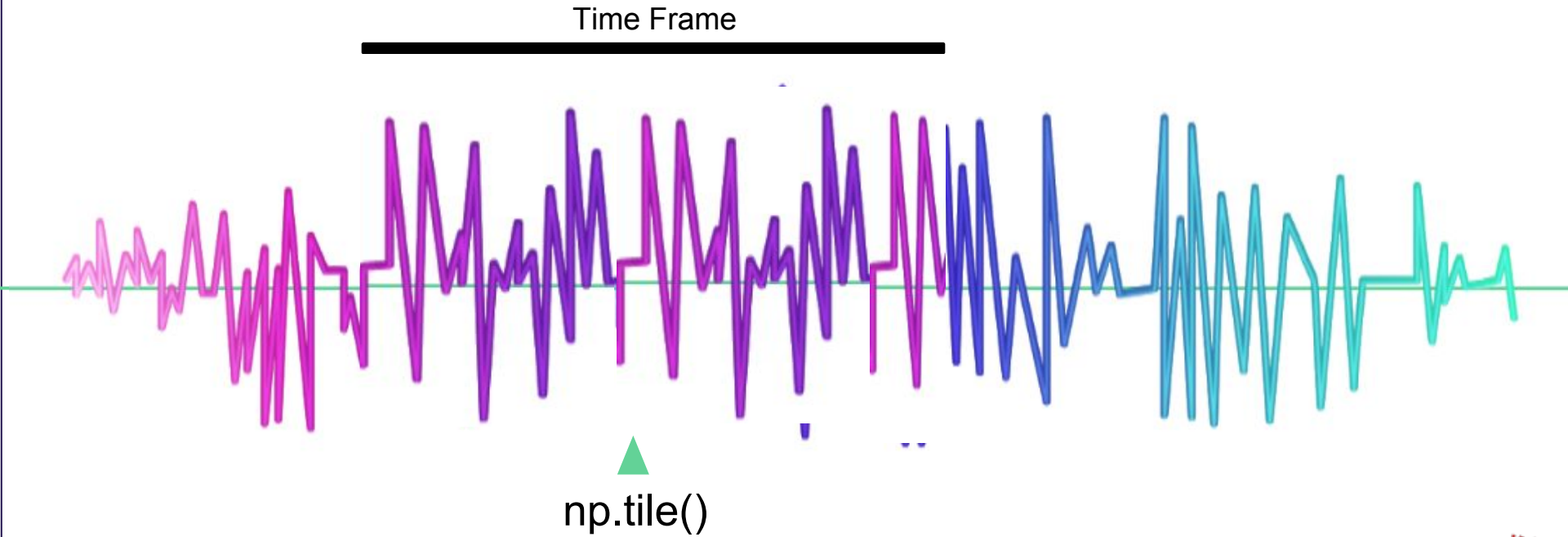
3. DATA PREPROCESSING

DATA PROCESSING

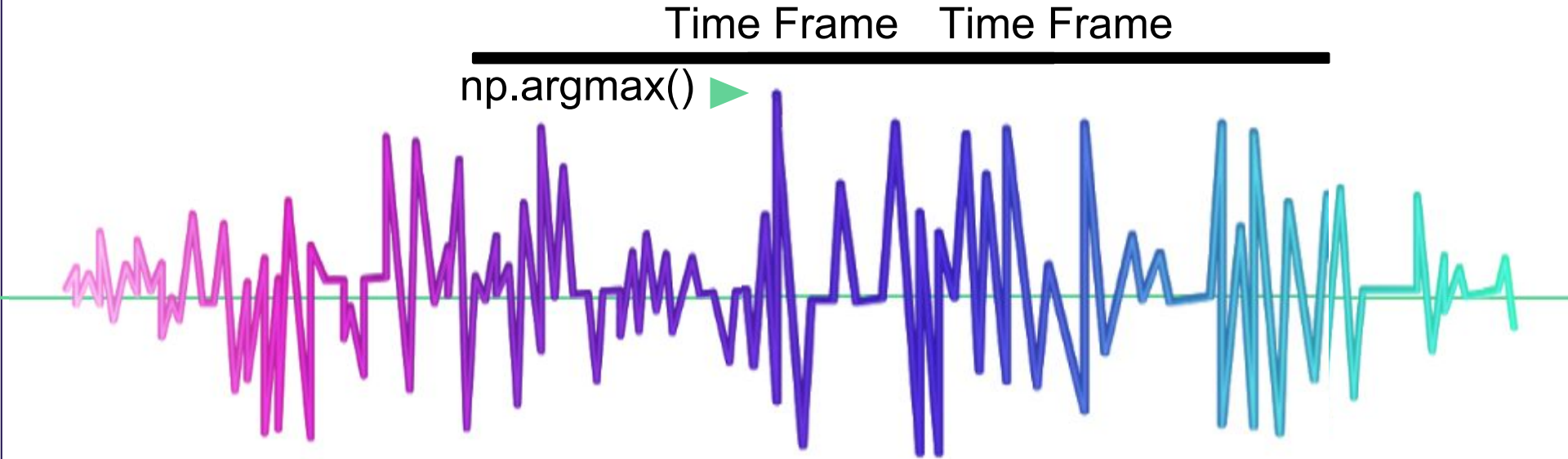
Time Frame



DATA PROCESSING

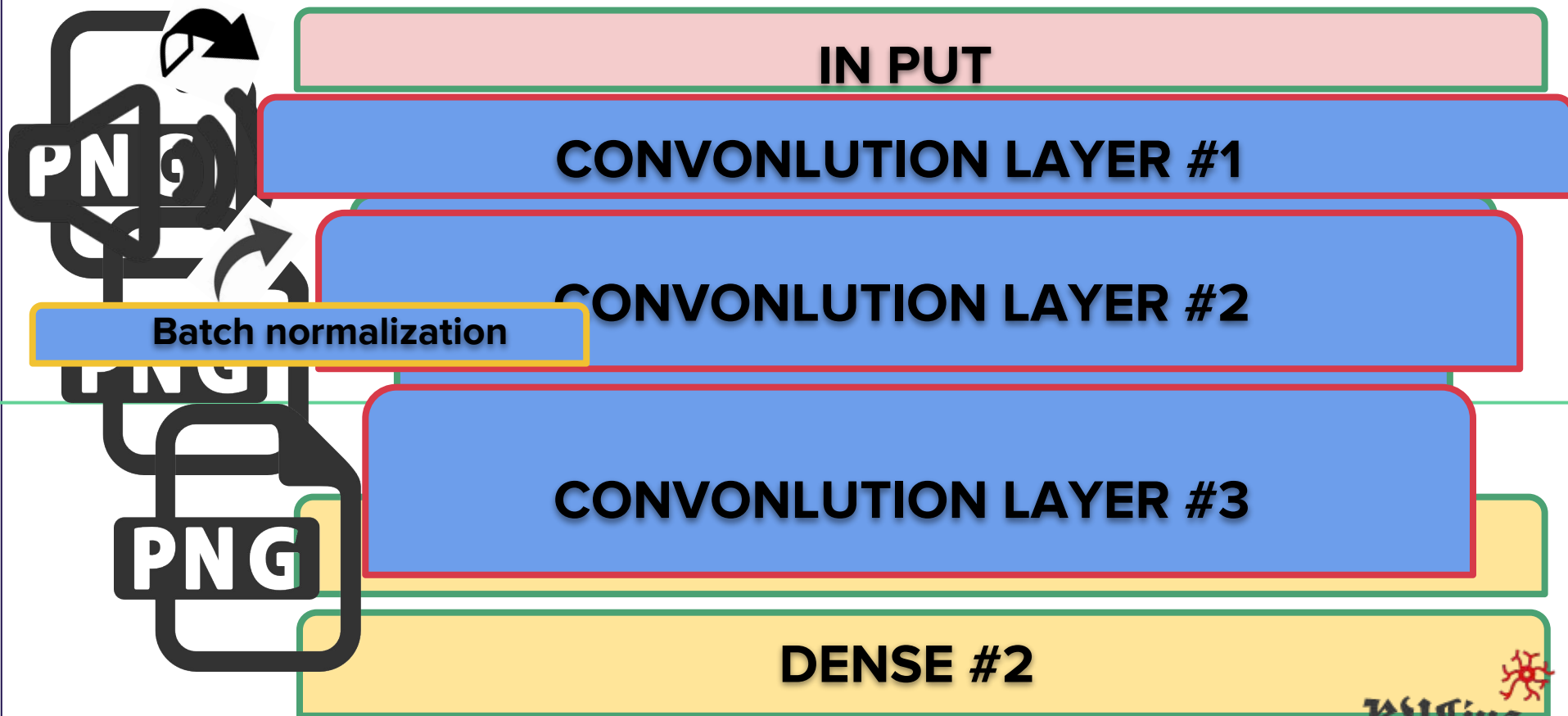


DATA PROCESSING



4. MODEL

MODEL



MODEL

IN PUT

CONVONLUTION LAYER #1

Batch normalization

CONVONLUTION LAYER #2

Batch normalization

CONVONLUTION LAYER #3

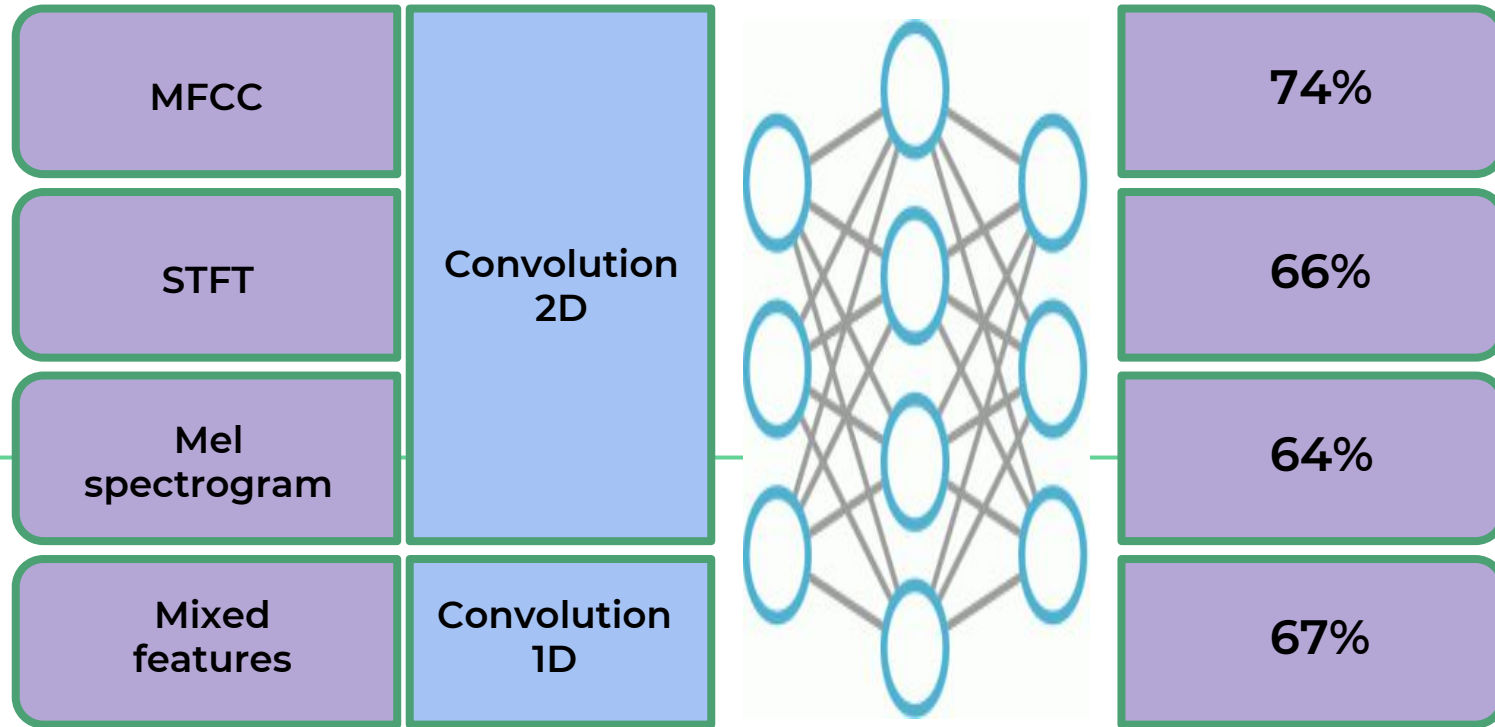
Batch normalization

DENSE #1

Batch normalization

DENSE #2

MODEL



5. ENSEMBLE

ENSEMBLE

MFCC	74%
STFT	66%
Mel spectrogram	64%
Mixed features	67%

ENSEMBLE

Error list (MFCC)

aaf6167e.wav

710d8919.wav

5f6ea2fe.wav

1b73bbfd.wav

491b140e.wav

...

....

Error list (MFCC)

aaf6167e.wav

710d8919.wav

5f6ea2fe.wav

1b73bbfd.wav

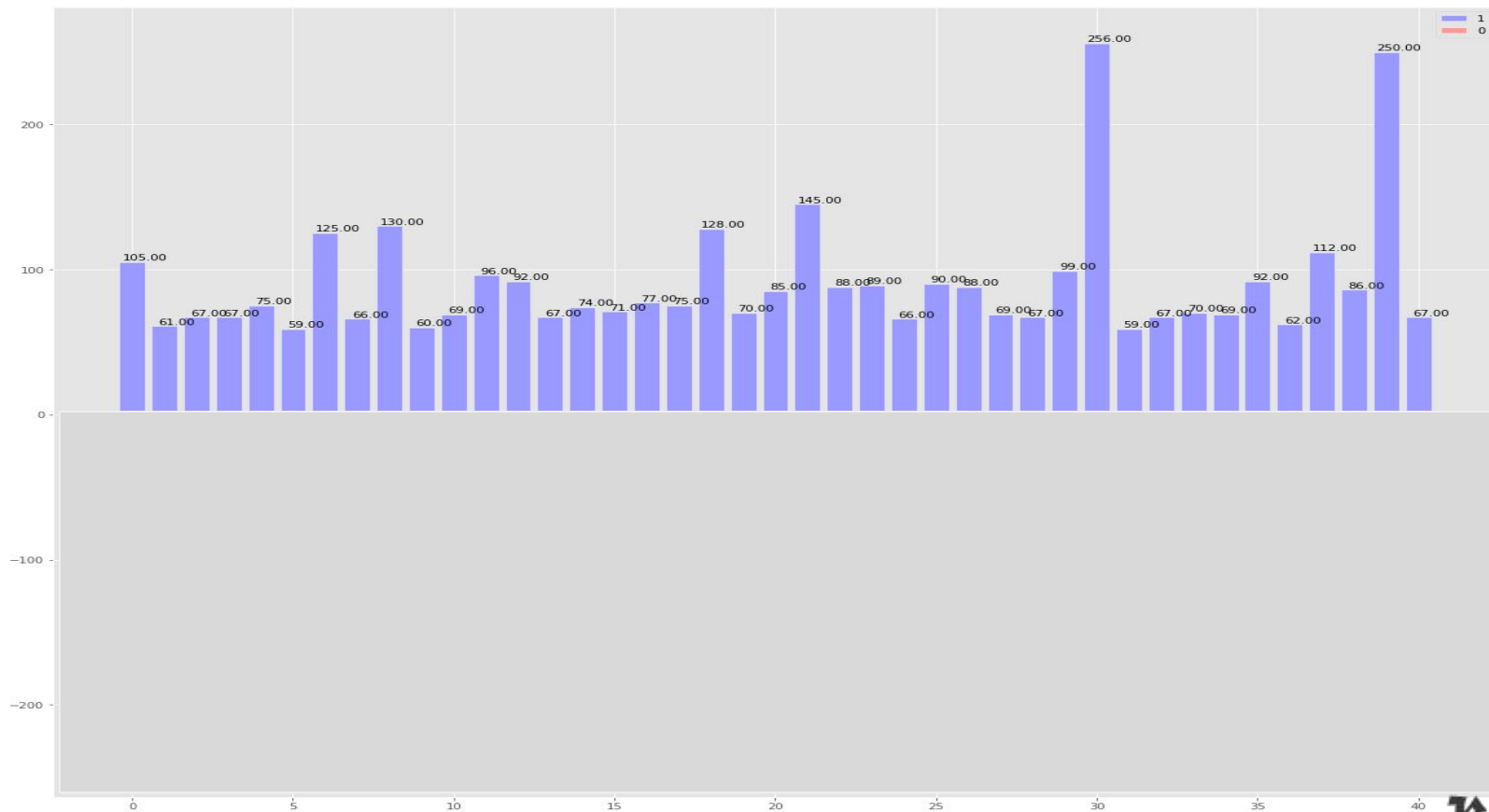
491b140e.wav

...

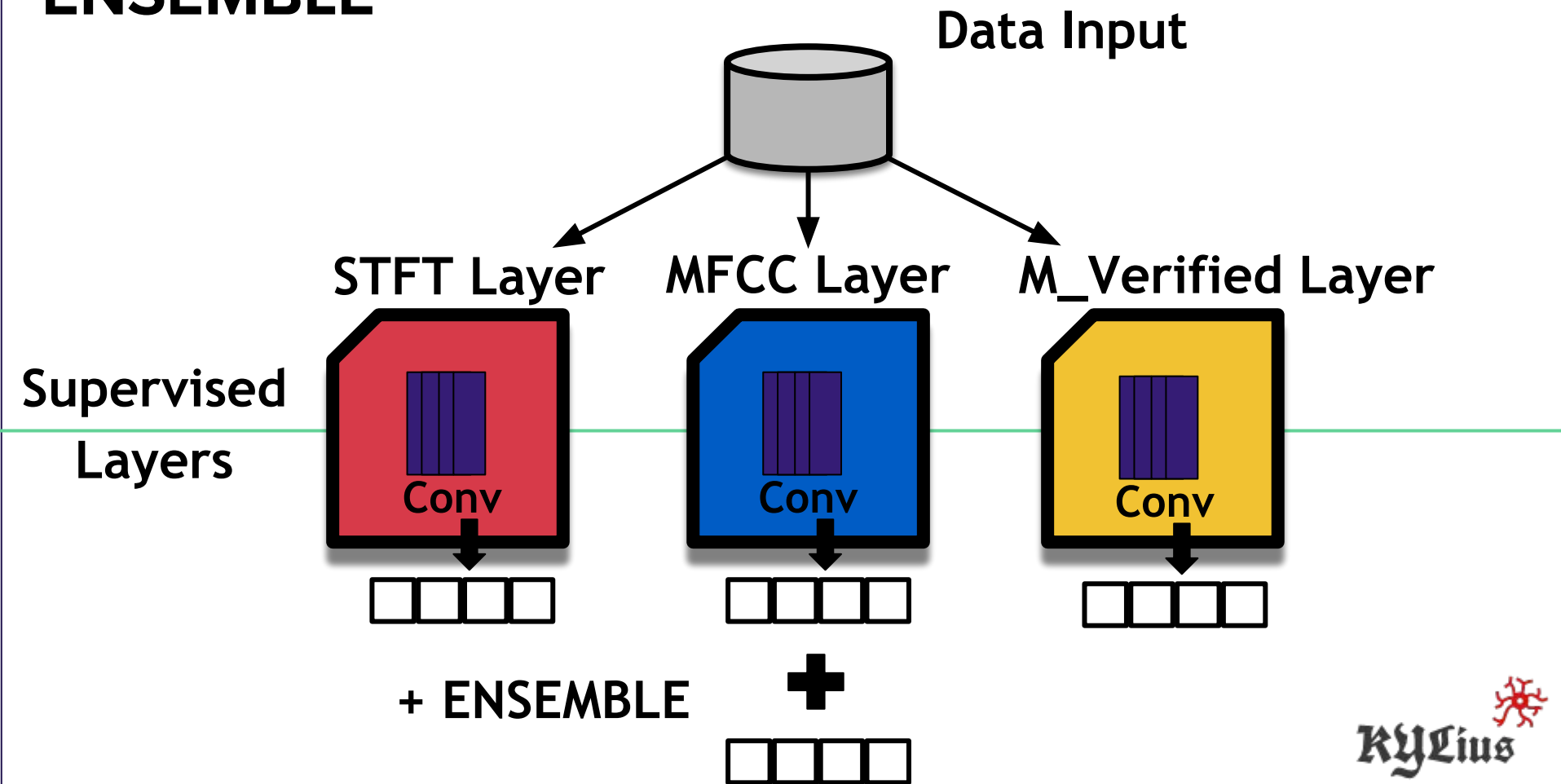
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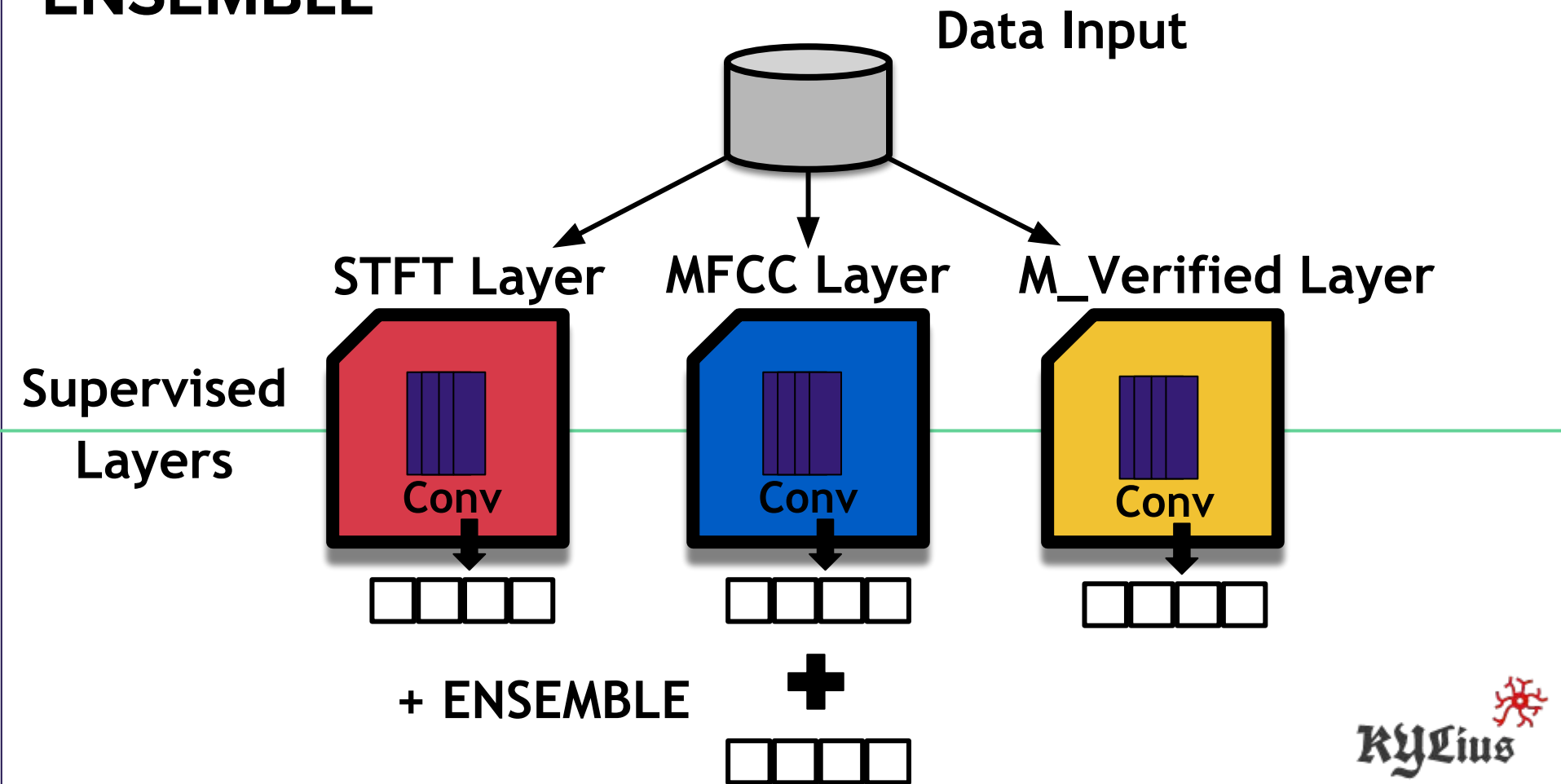
ENSEMBLE



ENSEMBLE



ENSEMBLE



ENSEMBLE

49

▲ 40

KYLius



0.876

6

now

Your Best Entry ↑

Your submission scored 0.876, which is an improvement of your previous score of 0.823. Great job!



Tweet this!

41

new

rajat arora



0.825

3

17h

42

new

kyl-team



0.823

1

4m

43

▼ 8

yukiya



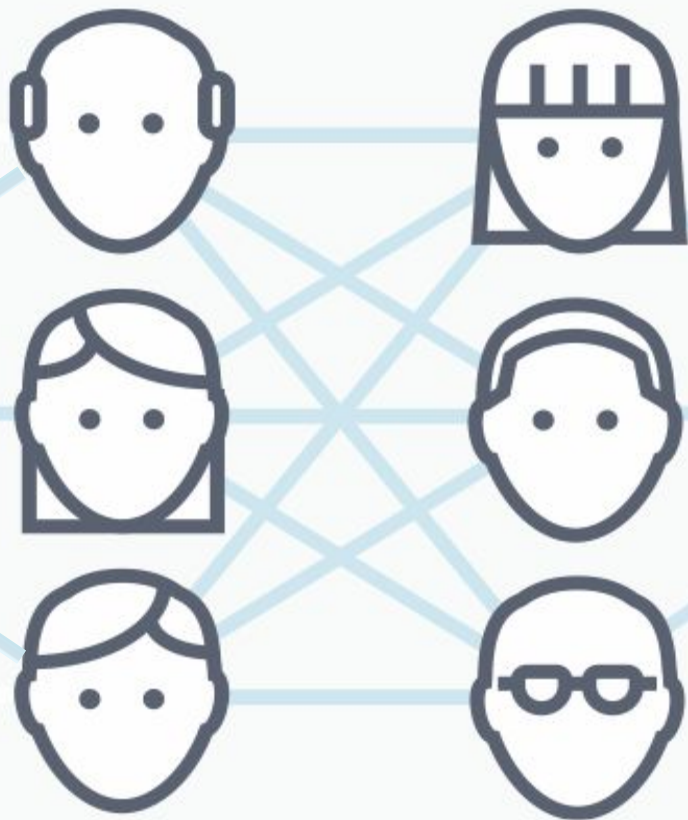
0.822

3

14d

결론

Model of
Kyeius



82?3%

감사합니다.
