**BrainHack 2021 TIL - Team 200 Success Submissions**

List of Parameters Used in Model for Each Challenge (CV)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Challenge** | **Dataset** | **Batch Size** | **Learning Rate** | **Classes** | **Epochs** | **Optimizer** | **Backbone** | **FPN** | **IOU Threshold** |
| 1 | C1 Original, C1 Easter | 4 | 0.003 | 6 | 20 | SGD | resnet101 | TRUE | 0.5 |
| 3 | C1 Original, C1 Easter, C3 Original, C3 Easter, C5 Original | 4 | 0.003 | 8 | 12 | SGD | resnet101 | TRUE | 0.5 |
| 5 | C1 Original, C1 Easter, C3 Easter, C5 Original | 4 | 0.003 | 9 | 10 | SGD | resnet101 | TRUE | 0.5 |

List of Parameters Used in Model for Each Challenge (ASR)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Challenge** | **Dataset** | **Double Data?\*** | **LR** | **Time Masking** | **Frequency Masking** | **Noise Sigma** | **Hidden Size** | **Number of layers** | **Batch Size** | **Optimizer** | **Dropout** | **Epochs** |
| 2 | C2 Original | N | 1e-02 | 5 | 5 | - | 256 | 2 | 32 | Adagrad | - | 30 |
| 4 | C2 Original, C2 Easter, C4 Original, C4 Easter | Y | 5e-03 | 5 | 5 | 5 | 9 | 0.7 | 1.2 | 256 | 4 | 32 | Adagrad | 0.3 | 30 |
| 6 | (C2 Original, C2 Easter, C4 Original, C4 Easter, C6 Original, C6 Easter) -> Augmented with noise using *SC6\_add\_noise.ipynb* | Y | 5e-03 | 5 | 5 | 5 | 9 | 0.7 | 1.2 | 256 | 4 | 32 | Adam | 0.3 | 30 |

*\*Double data refers to duplicating a copy of the data that we used, and then augmenting/transforming that two identical sets differently.*

*\* Time Masking and Frequency Masking with 2 values represents the augmentation done in either of the 2 identical datasets respectively.*

**Additional File Description (ASR)**

**--- CHALLENGE 2 ---**

Code\_SC\_Challenge\_2.ipynb

- Code for Challenge 2

model-SC-BiGru\_lr-1e-03\_TM-3\_FM-3\_HS-256\_NL-2\_BS-32\_OP-adagrad\_EP-30.pt

- Weights for Challenge 2

submission-SC-BiGru\_lr-1e-03\_TM-5\_FM-5\_HS-256\_NL-2\_BS-32\_OP-adagrad\_EP-30.csv

- Best submission predictions for Challenge 2

**--- CHALLENGE 4 ---**

Code\_SC\_Challenge\_4.ipynb

- Code for Challenge 4

model-double\_extra\_SC2\_noise\_HS-256\_NL-4\_BS-32\_OP-adagrad\_EP-30\_drop-0.3\_TFS1-5-9-0.7\_TFS2-5-5-1.2.pt

- Weights for Challenge 4

submission-double\_extra\_SC2\_noise\_HS-256\_NL-4\_BS-32\_OP-adagrad\_EP-30\_drop-0.3\_TFS1-5-9-0.7\_TFS2-5-5-1.2.csv

- Best submission predictions for Challenge 4

**--- CHALLENGE 6 ---**

Code\_SC\_Challenge\_6.ipynb

- Code for Challenge 6

model-SC6\_fullest\_bg2\_noise\_HS-256\_NL-4\_BS-32\_OP-adam\_EP-30\_drop-0.3\_TFS1-5-9-0.7\_TFS2-5-5-1.2.pt

- Weights for Challenge 6

submission-SC6\_fullest\_bg2\_noise\_HS-256\_NL-4\_BS-32\_OP-adam\_EP-30\_drop-0.3\_TFS1-5-9-0.7\_TFS2-5-5-1.2-1.csv

- Best submission predictions for Challenge 6

SC6\_add\_noise.ipynb

- A notebook that produces random background noises into the training audio file for export

- To simulate the test set background

noise/

- Some background noises generated from this website:

<https://noises.online/>

Collated by Team 200 Success