



# SpectrogramCNN Model

## Training Report

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Gauss Chang <sup>†</sup> and supervisor's name <sup>‡</sup>

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<sup>†</sup>Department of Physics  
NATIONAL TAIWAN UNIVERSITY

<sup>‡</sup>Department of Something  
SUPERVISOR'S INSTITUTE

# OUTLINE

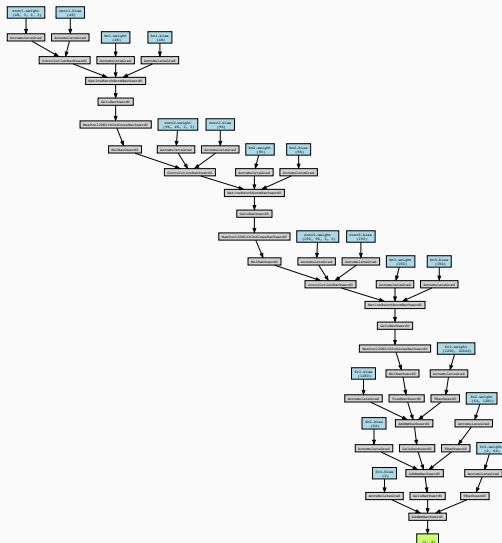
1. About Model
2. Accuracy
3. Time Evaluation

## About Model

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# ABOUT MODEL: STRUCTURE

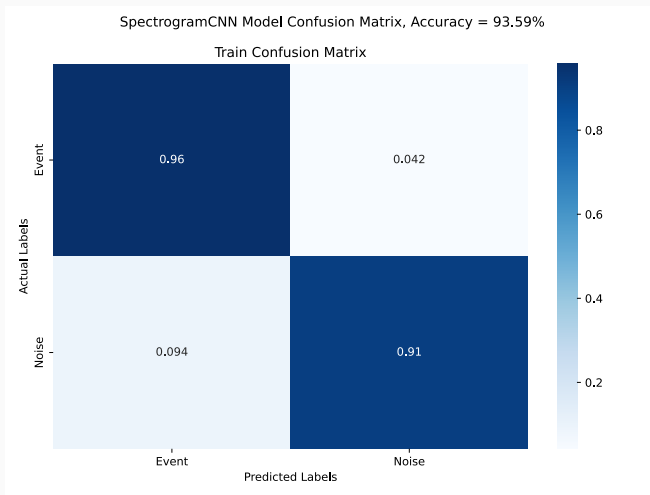
```
torch.Size([1, 2])
Number of parameters: 42072258.00
[INFO] Register count_convNd() for <class 'torch.nn.modules.conv.Conv2d'>.
[INFO] Register count_normalization() for <class 'torch.nn.modules.batchnorm.BatchNorm2d'>.
[INFO] Register zero_ops() for <class 'torch.nn.modules.pooling.MaxPool2d'>.
[INFO] Register zero_ops() for <class 'torch.nn.modules.dropout.Dropout'>.
[INFO] Register count_linear() for <class 'torch.nn.modules.linear.Linear'>.
The model has 648152576.0 FLOPs
```



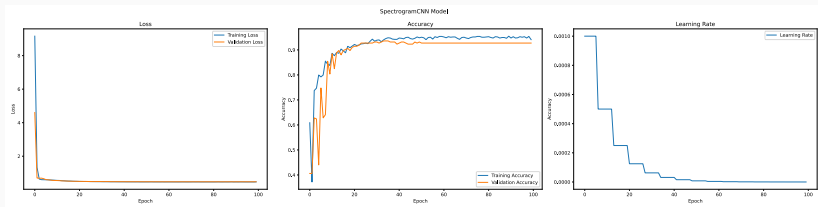
# Accuracy

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# ACCURACY: CONFUSION MATRIX



# ACCURACY: ACCURACY CURVE





# Time Evaluation

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# TIME EVALUATION: ON LINUX PC

If execute on the Linux PC, check here

```
=====
Maximum time on Mac mini is:      44.670000 ms.
Average time on Mac mini is:     11.452346 ms.
Standard dev on Mac mini is:      1.138541 ms.
```

```
-----
Maximum time on Raspberry Pi 4b should be: 343.615385 ms.
Average time on Raspberry Pi 4b should be:  88.094970 ms.
Standard dev on Raspberry Pi 4b should be:   3.157744 ms.
```

# TIME EVALUATION: ON MAC MINI

If execute on the Mac mini, check here

```
=====
Maximum time on Mac mini is:      44.670000 ms.
Average time on Mac mini is:      11.452346 ms.
Standard dev on Mac mini is:      1.138541 ms.
```

```
-----
Maximum time on Raspberry Pi 4b should be:  316.808511 ms.
Average time on Raspberry Pi 4b should be:   81.222313 ms.
Standard dev on Raspberry Pi 4b should be:   3.032069 ms.
```

# TIME EVALUATION: ON MACBOOK 2017

If execute on the Macbook 2017, check here

```
=====
Maximum time on Mac mini is:      44.670000 ms.
Average time on Mac mini is:      11.452346 ms.
Standard dev on Mac mini is:      1.138541 ms.
```

```
-----
Maximum time on Raspberry Pi 4b should be: 109.687363 ms.
Average time on Raspberry Pi 4b should be:  28.121281 ms.
Standard dev on Raspberry Pi 4b should be:   1.784099 ms.
```