# Report

## ECE 477 Computer Audition

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## Homework 5

## Nov. 1, 2019

### LSTM

**Training Code:** layers.py, Model\_RNN.py

**Testing Code:** test.py, main.m, bss\_eval\_sources.m

**Files:** separate\_RNN.py, savedModel\_RNN\_best.py

**Last several epocs(mse loss):**

*epoc : 95, loss 2.1291737084538909e-07: 100%|███████████| 60/60 [01:44<00:00, 1.74s/it]*

*validation Loss = 2.5829e-07*

*epoc : 96, loss 2.1117703852269187e-07: 100%|███████████| 60/60 [01:45<00:00, 1.75s/it]*

*validation Loss = 2.5808e-07*

*epoc : 97, loss 2.077462539773478e-07: 100%|████████████| 60/60 [01:47<00:00, 1.79s/it]*

*validation Loss = 2.5790e-07*

*epoc : 98, loss 2.1009262241022952e-07: 100%|███████████| 60/60 [01:45<00:00, 1.76s/it]*

*validation Loss = 2.5598e-07*

*epoc : 99, loss 2.0908530018459714e-07: 100%|███████████| 60/60 [01:45<00:00, 1.76s/it]*

**SNR:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| # Test | 51 | 52 | 53 | 55 | 56 | 59 | 60 | 63 | 65 | 66 |
| SDR | 1.6967 | 2.9156 | -1.0238 | 1.5086 | 2.1352 | 2.3980 | 2.4011 | 2.6613 | 1.0961 | 4.9782 |
| Ave | 2.0767 | | | | | | | | | |

### FCNN

**Training Code:** Model\_fcnn.py

**Testing Code:** test.py, main.m, bss\_eval\_sources.m

**Files:** separate\_fcnn.py, savedModel\_fcnn\_best.py

**SDR:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| # Test | 51 | 52 | 53 | 55 | 56 | 59 | 60 | 63 | 65 | 66 |
| SDR | 1.5929 | -1.5487 | 0.9158 | -1.3479 | 3.8859 | 5.2558 | 3.4934 | -6.7345 | 3.1607 | 3.6823 |
| Ave | 1.2356 | | | | | | | | | |