

Python 3.7.4 (default, Aug 9 2019, 18:34:13) [MSC v.1915 64 bit (AMD64)]  
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IPython 7.10.1 -- An enhanced Interactive Python.

Restarting kernel...

---

```
In [1]: 'C:/Users/strix/Documents/GitHub/AI-PAAS/CMAPSS/Script_Main.py' = 'C:/Users/strix/Documents/GitHub/AI-PAAS/CMAPSS'
```

Number of extracted features are 3

WARNING:tensorflow:From C:\Users\strix\AppData\Local\Continuum\miniconda3\lib\site-packages\tensorflow\_core\python\ops\resource\_variable\_ops.py:1630: calling BaseResourceVariable.\_\_init\_\_ (from tensorflow.python.ops.resource\_variable\_ops) with constraint is deprecated and will be removed in a future version.

Instructions for updating:

If using Keras pass \*\_constraint arguments to layers.

C:\Users\strix\AppData\Local\Continuum\miniconda3\lib\site-packages\tensorflow\_core\python\keras\layers\recurrent.py:781: DeprecationWarning: Using or importing the ABCs from 'collections' instead of from 'collections.abc' is deprecated, and in 3.8 it will stop working

```
    if isinstance(inputs, collections.Sequence)
```

C:\Users\strix\AppData\Local\Continuum\miniconda3\lib\site-packages\tensorflow\_core\python\keras\engine\training\_utils.py:1293: DeprecationWarning: Using or importing the ABCs from 'collections' instead of from 'collections.abc' is deprecated, and in 3.8 it will stop working

```
    if isinstance(sample_weight_mode, collections.Mapping):
```

Model: "sequential"

Layer (type)	Output Shape	Param #
masking (Masking)	(None, None, 3)	0
simple_rnn (SimpleRNN)	(None, None, 15)	285
layer_normalization (LayerNo	(None, None, 15)	30
simple_rnn_1 (SimpleRNN)	(None, 15)	465
layer_normalization_1 (Layer	(None, 15)	30
dense (Dense)	(None, 15)	240
leaky_re_lu (LeakyReLU)	(None, 15)	0
batch_normalization (BatchNo	(None, 15)	60
dense_1 (Dense)	(None, 15)	240
leaky_re_lu_1 (LeakyReLU)	(None, 15)	0
batch_normalization_1 (Batch	(None, 15)	60
dense_2 (Dense)	(None, 1)	16

Total params: 1,426

Trainable params: 1,366  
Non-trainable params: 60

---

None

Train on 4235 samples, validate on 1818 samples

Epoch 1/5

4235/4235 [=====] - 58s 14ms/sample - loss: 4685.4438 - val\_loss: 2474.9054

Epoch 2/5

4235/4235 [=====] - 56s 13ms/sample - loss: 2145.2442 - val\_loss: 1091.5686

Epoch 3/5

4235/4235 [=====] - 55s 13ms/sample - loss: 1291.8993 - val\_loss: 1183.1502

Epoch 4/5

4235/4235 [=====] - 56s 13ms/sample - loss: 1223.8460 - val\_loss: 1131.2501

Epoch 5/5

4235/4235 [=====] - 55s 13ms/sample - loss: 1196.6157 - val\_loss: 822.7016

PCA test variation is less than the train variation. It is - 0.82

The score is - 864 and mse is - 878.4346679221434 and pme is - -20.65388912200928 !!! Cry or Celebrate

In [2]: