Deep Learning

Application 6

TensorFlow application which used for Loss Reduction.

```
import tensorflow as tf

print("Marvellous Infosystems : Machine Learning")

#Model parameter
w = tf.compat.v1.Variable([.3],tf.float32)
b = tf.compat.v1.Variable([-.3],tf.float32)

# Input and Output
x = tf.compat.v1.placeholder(tf.float32)

linear_model = w * x + b

y = tf.compat.v1.placeholder(tf.float32)

# Loss function
squared_delta = tf.square(linear_model-y)
loss = tf.reduce_sum(squared_delta)

# Optimiser
optimiser = tf.compat.v1.train.GradientDescentOptimizer(0.01)
train = optimiser.minimize(loss)

init =  tf.compat.v1.global_variables_initializer()

# Run computational graph
sobj = tf.compat.v1.Session()

sobj.run(init)

for i  in range(1000):
    sobj.run(train,{x:[1,2,3,4], y:[0,-1,-2,-3]})

print(sobj.run([w,b]))

```

Output of above application

```
(base) MacBook-Pro-de-MARVELLOUS:TensorApplications
 marvellous$ python3 TensorLosssOptimiser.py
Marvellous Infosystems : Machine Learning
2019-06-08 22:53:38.358539: I tensorflow/core/platf
orm/cpu_feature_guard.cc:142] Your CPU supports ins
tructions that this TensorFlow binary was not compi
led to use: AVX2 FMA
[array([-0.9999969], dtype=float32), array([0.99999
08], dtype=float32)]
(base) MacBook-Pro-de-MARVELLOUS:TensorApplications
 marvellous$
```