TENSORFOW CALLBACKS

TensorFlow Callbacks are a powerful tool for enhancing the training process of neural networks. These callbacks provide the ability to monitor and modify the behavior of the model during training, evaluation, or inference.

Common TensorFlow Callbacks

TensorFlow provides several built-in callbacks that can be very useful:

- **EarlyStopping**: Stops training when a monitored metric has stopped improving.

early_stopping = tf.keras.callbacks.EarlyStopping(monitor='val_loss', patience=3)

- **ModelCheckpoint**: Saves the model at specified intervals.

model_checkpoint = tf.keras.callbacks.ModelCheckpoint(filepath='model.h5', save_best_only=True)

- **LearningRateScheduler**: Schedules changes to the learning rate during training.

```
def scheduler(epoch, lr):
    if epoch < 10:
        return lr
    else:
        return lr * tf.math.exp(-0.1)

lr_scheduler = tf.keras.callbacks.LearningRateScheduler(scheduler)
```

- **TensorBoard**: Logs data for visualization in TensorBoard.

tensorboard = tf.keras.callbacks.TensorBoard(log_dir='./logs')