## **Estimator**

Learn how to use TensorFlow's Estimator API for model development.

## **Chapter Goals:**

• Create an **Estimator** object for the regression model

## A. Creating an **Estimator**

TensorFlow's Estimator object provides an organized and simple API for model execution. It handles model training, saving and restoring checkpoints, evaluating a model, and making predictions.

To initialize an <code>Estimator</code> object, we pass in the model function as a required argument. The model function should follow the same template as <code>regressor\_fn</code>. The function must return an <code>ExampleSpec</code> object, which specifies the model results for training, evaluation, or prediction.

The two main keyword arguments to know are <code>model\_dir</code> and <code>params</code>. The <code>model\_dir</code> argument represents the directory we save model checkpoints to. The <code>params</code> argument represents the values we wish to pass into the model function. The argument should be set to a dictionary, which then corresponds to the model function's <code>params</code> argument.

```
import tensorflow as tf
params = {
    'feature_columns': feature_columns,
    'hidden_layers': hidden_layers
}
regressor = tf.estimator.Estimator(
    regressor_fn,
    model_dir=ckpt_dir,
    params=params)
```

Creating the Estimator object for the regression model.

In our example, we initialized the <code>Estimator</code> object with <code>regressor\_fn</code> as its model function. We set the checkpoint directory to <code>ckpt\_dir</code>, and passed in

the feature columns and number of hidden layers through params.