Course 2 Labs Summary

C2_W1_Labs

C2_W1_Lab01_Neurons_and_Layers

In 2019, Google integrated Keras into Tensorflow and released Tensorflow 2.0

Keras is a framework developed independently by François Chollet that creates a simple, layer-centric interface to Tensorflow. This course will be using the Keras interface.

- Importing MeanSquaredError & BinaryCrossentropy From tensor Flow
- Plotting a scatter plot using matplotlib.pyplot
- Linear Regression Using Tensor Flow | Regression/Linear Model |
- Giving input to a layer, inputting only one example, in tensor flow | Let's try the model on one example |
- getting/outputting the weights of a layer in tensor flow | w, b= linear_layer.get_weights() |
- Setting weights to your own chosen values in tensor flow | linear_layer.set_weights([set_w, set_b]) |
- Inputing/passing a whole training set to a layer in tensor flow | linear_layer(X_train) |
- Linear plot using matplotlib | plt_linear |
- Logistic Regression Using Tensor Flow, using sequential model | Neuron with Sigmoid activation |
- Scatter plot for Binary Classification | fig,ax = plt.subplots(1,1,figsize=(4,3)) |
- Specifications of a model in tensor flow e.g. no. of layers etc. | model.summary() |

C2_W1_Lab02_CoffeeRoasting_TF

Building a small neural network using tensor flow.

- Normalization of Data using tensor flow | Normalize Data |
- Defining/Creating Two layered neural network using tensor flow | model = Sequential(|
- What is meant by Epochs and batches | Epochs and batches |
- You have a row or column vector, all of the entries of the vector have values between [0,1] ,
  You want to convert the “entry >= 0.5” into ‘1’ & the “entry < 0.5” into ‘0’ | (predictions >= 0.5) |

C2_W1_Lab03_CoffeeRoasting_Numpy

Building a small neural network using Numpy.

C2_W1_Assignment

Use a neural network to recognize two handwritten digits, zero and one.

- NumPy Broadcasting Tutorial (Optional)