

CSE 5194: HOMEWORK № 1

Asmaa Aljuhani

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Iris classification problem

I. What is an Estimator? What are three main capabilities of an Estimator object?

An Estimator is a high level API for Tensorflow model. It make it easy and effective to build a standard DNN model. Estimators can train the model, judge the model accuracy and generate prediction.

II. How many features and labels are there for the Iris dataset?

There are four features and one label (that can take 3 different values)

III. What is an input function?

Input function is a function that provide data to the model. It returns a tf.data.Dataset object that can be passed to the training and testing phases.

IV. What is the difference between features and feature columns?

features: raw data

feature column: tell the model how to parse the data. it also specify the format of the input (type of the variable).

V. Write the name of three Premade Estimators that TensorFlow provides.

DNNClassifier

DNNLinearCombinedClassifier

LinearClassifier

Running the program

Col1	CPU	GPU
Time (last step)	0.139 sec	0.147 sec
Loss function	1.6756479	1.9810725
accuracy	0.96666664	0.93333334
Test set accuracy	0.967	0.933