Using TensorFlow in R/RStudio: Part II

Using TensorFlow in R/RStudio to conduct a Regression Analysis

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This exercise will walk you through conducting a regression analysis using keras and Tensorflow in R/RStudio. After all the required work to installation to use TensorFlow in R/RStudio, if you completed the exercise involving classification then this exercise will be easy. But, you do have to complete the classification exercise in order to be able to do this one.

In the documentation for TensorFlow for R/RStudio at: https://tensorflow.rstudio.com/tutorials/beginners/basic-ml/tutorial_basic_regression/ you will find the complete instructions for conducting a regression analysis on the Boston Housing dataset using TensorFlow. You might or might not have used the Boston Housing dataset before. If not you should take time to become familiar with it. The Boston Housing dataset is available at: https://www.cs.toronto.edu/~delve/data/boston/bostonDetail.html. This webpage in the Computer Science Department in the University of Toronto includes a description of the dataset and the variables in the data. As with any dataset, to conduct a good, reliable analysis you must understand the data including what each of the variables means and how to use each one.

Since the instructions required to complete this exercise are completely contained on the webpage above, I will not go into more detail on those instructions here. As always, if you have any questions, be sure to ask as soon as possible! It really is not necessarily to get completely frustrated!

If you want to understand regression analysis better, as well as the Boston Housing dataset, you could consider conducting the same regression analysis using a variety of methods including using gradient descent. Compare your answers using each method to understand how varying hyperparameters, learning rates, etc., impact the answers obtained from the analyses!