In this exercise, you’ll train a model in Python, and convert it to JavaScript.

Open the **C1\_W3\_Assignment.ipynb** Jupyter notebook found in the following folder in the GitHub repository:

[tensorflow-2-public/C1\_Browser-based-TF-JS/W3/assignment/](https://github.com/https-deeplearning-ai/tensorflow-2-public/tree/main/C1_Browser-based-TF-JS/W3/assignment)

To run this notebook you will need have installed Jupyter with Python 3, TensorFlow 2.0, Tensorflow.js, NumPy, and Matplotlib.

In this notebook we train a neural network to classy images of Cats and Dogs. It was used in the [Introduction to TensorFlow](https://www.coursera.org/learn/introduction-tensorflow/) class here at Coursera, which can give you a primer in using Python to build models. At the bottom of the notebook are sections for you to fill-in -- saving your model as a Keras HDF5 file, and then using the TensorFlow.js converter to convert it to JavaScript. You must fill-in the missing code in the parts labeled:

# YOUR CODE HERE

**NOTE:** The convolutional neural network in this notebook can take about **4 minutes to train**, however, this time can vary depending on your setup.

If you do things correctly and run the code successfully, you will end up with a single JSON file named **model.json** and various **.bin** files, such as **group1-shard1of10.bin**. The number of **.bin** files will depend on the size of your model: the larger your model, the greater the number of **.bin** files. If you have a small model you will end up with just 1 **.bin** file.

You must upload the **model.json** and all the **.bin** files in a **single Zip file** to be graded. This single Zip file must contain a single **model.json** file and all the **.bin** files:

1. **model.json**: Contains the model architecture, i.e. the type and size of each layer.
2. **group1-shard1of10.bin**: Contains part of the weights of the model.
3. **group1-shard2of10.bin**: Contains part of the weights of the model.
4. **group1-shard3of10.bin**: Contains part of the weights of the model.
5. **group1-shard4of10.bin**: Contains part of the weights of the model.
6. etc...

Good Luck!