Assignment #4
Due April 15th

Real-time text classification in the browser

About

In this assignment you'll gain experience with TensorFlow.js by training a model locally in Python, and deploying it in the browser using JavaScript. I think this is a valuable skill that will serve you well in the future.

Submission instructions

Please submit this assignment on CourseWorks. You submission should a text file containing the URL of your model (running in the browser) and a brief write up.

Code references

- TensorFlow.js
- Sentiment example
- Practical text classification guide

Part 1 (90 points)

Modify the starter code (7-colab-to-webpage.ipynb) to classify snippets of text from four books on Project Gutenberg. Given a snippet of text (not necessarily a complete sentence) predict which book it belongs to.

- To get started, configure the starter code to train a simple model and commit it to GitHub Pages. Visit your website and verify the model works.

- Modify the starter code to work with four classes. You will need to make minor modifications to the JavaScript and HTML for this portion.

- Collect a medium size training set (say, 1,000 sentences from each book) and use these as a corpus to train your model.

- Improve the model from the starter code using RNNs.

- Compare your RNN-based approach and a simple baseline (say, using a couple dense layers). Which worked better, and why? Include a short write up.

- Deploy your best model in the browser, and include a URL with your submission.

Part 2 (10 points)

- Modify the starter code (7-colorbot-predict-starter.ipynb) to predict color R,G,B values from names. You should only need to write several lines of code. Include your completed notebook and the output in your submission.

Extra credit
You may complete some of all of these problems, in any order.

EC1: Deploy your ColorBot model in the browser. Show the predicted colors visually.

EC2: Generate QuickDraw drawings with an RNN. This loader should be helpful. Bonus points: include an animated GIF showing the drawings being created step by step.