MAIS 202 - PROJECT DELIVERABLE 3

Due: November 15th at 11:59PM EST

Over the course of MAIS202, you will be completing a machine learning based project of your choice for the final project. You will also demo your project by integrating it into a webapp (or something more advanced). To conclude, you will be writing a blog post to share your project with others.

Submission

To submit:

- Go on your/your team's Github repository that is declared in this spreadsheet (from Deliverable 1).
- Push your deliverable there as a pdf file: "Final Results.pdf"
- Push your codes there. If there's more than one file, please create a new folder named "code".

Note: Make sure to maintain your/your team's Github with properly documented README!

Deliverable Description

In this deliverable, you will discuss your final training results and your integration approach. This is a machine learning course, so make sure to focus on the analysis of your results.

1. Final Training Results Compare your final results to your preliminary ones (from the previous deliverable). Have you changed anything to your model since the previous deliverable? If so, how have your changes improved the results?

Now, focus on your final results. Once again, present a detailed analysis of your results, provide graphs as appropriate. Analysis requirements differ in every field, but **must report at least one concrete metric relevant to the field in which you are working.**

Here are some examples:

- Confusion matrix and accuracy/precision-recall/logistic loss (classification problems).

- Mean squared error (regression problems)

- Rand index (unsupervised models)

- BLEU score with brevity penalty (text generation)

- variance of the dimension reduced set vs variance of the initial dataset (dimensionality reduction/PCA)

2. Final demonstration proposal: Now that you trained your model, it is time for you to integrate it in a final product. *Don't forget to save your trained weights! You will need them for the integration and/or testing your model. (e.g. in keras:* model.save_weights(filepath) *and* model.load_weights(filepath))

- *Application* We want all of you to at least have a landing page type website to demo your model and results. For more experienced developers, you are welcome to choose something more advanced.

Discuss your final product, and final integration approach. Describe and justify the choice of stacks and technologies. Provide diagrams as appropriate. Explain your experiences with the technologies you have proposed. If you do not have any, explain how you would come to learn them (eg. online tutorials, etc.)

If you do not have any experience creating a webapp and were not able to check out the MAIS workshop on integrating your ML model into a webapp, you can find the recording here:

https://www.youtube.com/watch?v=aucqOA6kyiU&ab_channel=McGillArtificialIntelligenceSociety

Here is the google drive with the resources mentioned in the video:

https://drive.google.com/drive/folders/1MXVhrvm3QyH4WKLwG-B-C82yEPAJD62L?usp=sharing

And here is the GitHub repo for the basic webapp if you just want to start with the basic webapp and build yours from there: https://github.com/McGillAISociety/f2021-deploying-ml-model