

Project Instruction:

The number of students must be 5-7 students (not less not more than that).

The group presentation of the project will be in session 7 and session 8.(in Session 8 you also have final exam).

The language that you use for you project must be in Python, function base and /or object oriented and based on the keras, pytorch or tensorflow.

You must upload your code through a notebook.

You must upload two types of files at least (notebook and pdf) and upload them D2L:

- 1- Notebook(code, description and summarize report at the end of notebook, your contribution)
- 2- pdf file of notebook that you create.

How to organize notebook:

1- Details of dataset:

the reference link to the dataset, Business problem description, data analysis, finding correlation for tabular data.

For images use plotting

2- Preprocessing steps: normalization, remove null values, outliers, ...

3- Model

3-1 you could train your model from scratch: you use batch normalization, drop out, ...

3-2 you could use pretrained models and fine tune it

4- Hyper parameter tuning (Good to have it)

5- keep track of training loss and accuracy. And analyze your training and validation model.history or tensorboard.

6- Apply model.prediction

7- Apply model.evaluation

8- interpret your result.

9- Write your report. If you use GPUs, TPU or CPU, write details, write also about the memory.

10- Next step (could be what is your suggestion if you want to continue on this project).

11- Lessons to learn.

12- Presentation