Group project requirements

Your group project should include the following:

Part 1 – your project objective and data : (10pts)

1. Set your goal(s) in a paragraph and state why you chose this project and what you are trying to solve
2. Load your data from an external source (.xls, .txt, .mat, .db, .sql, image, audio file) into the workspace for any kind of analysis, recognition, mathematical operation or filtering you intent to perform
3. Possible data sources: www.kaggle.com , www.data.gov , etc.

Part 2 – demonstrate understanding of key objects, graphs, nodes, etc: (20pts)

1. Consider using NumPy, SciPy, Matplotlib, Pandas, Scikit-Learn, Tensorflow etc.

Part 3 – use any of the learning methods and algorithms we discussed in class: (30pts)

1. You can use any of the following machine learning methods without any limitations:
   k-NN, Linear regression, Logistic regression, Neural Networks, SVM or any other Supervised or Unsupervised learning method needed in your case
2. Since sophisticated modeling usually requires the execution of calculations on datasets in repetitive fashion, in addition to functions and classes consider using modules that you build in a small package

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Part 4 – plotting some of your results: (30pts)

1. make the best use of what we have covered: use 2-D or 3-D plots whenever necessary
2. Consider using graph summaries in different parts of the process as shown in class
3. make sure that at minimum you use: titles, x- and y- labeling, x- and y- ticks
4. when possible, use legends and annotations

Part 5 – clean up your code: (10pts)

1. Use good coding practices (avoid cryptic expressions, use comments and sections, load only what you need, etc.)
2. Save your project to a .py or a .ipynb file and submit it along with your data (or provide a link to it) before the beginning of presentation day. Your project may need to include different modules that you wrote. In this case provide the entire package.
3. Presentations will take place in our last class, so get ready to discuss your results. Each group will have about 15-20 min to present their work including questions. The order of presenting will be chosen randomly before we begin.
4. Include the following in a README.txt file and send it to me:
   - what platform/system and installation versions you used to run your code
   - what packages, dependencies and versions you used
   - the sequence of how your code needs to be executed
   - any other details that you think might be useful

Please stay excited ☺