DS6 ASSIGNMENT INTRODUCTION

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Overview:

The project focus on predicting the survival rate for the titanic disaster. Here we are building a predictive model that answers the question: “what sorts of people were more likely to survive?” using passenger data (ie name, age, gender, socio-economic class, etc).

Source:

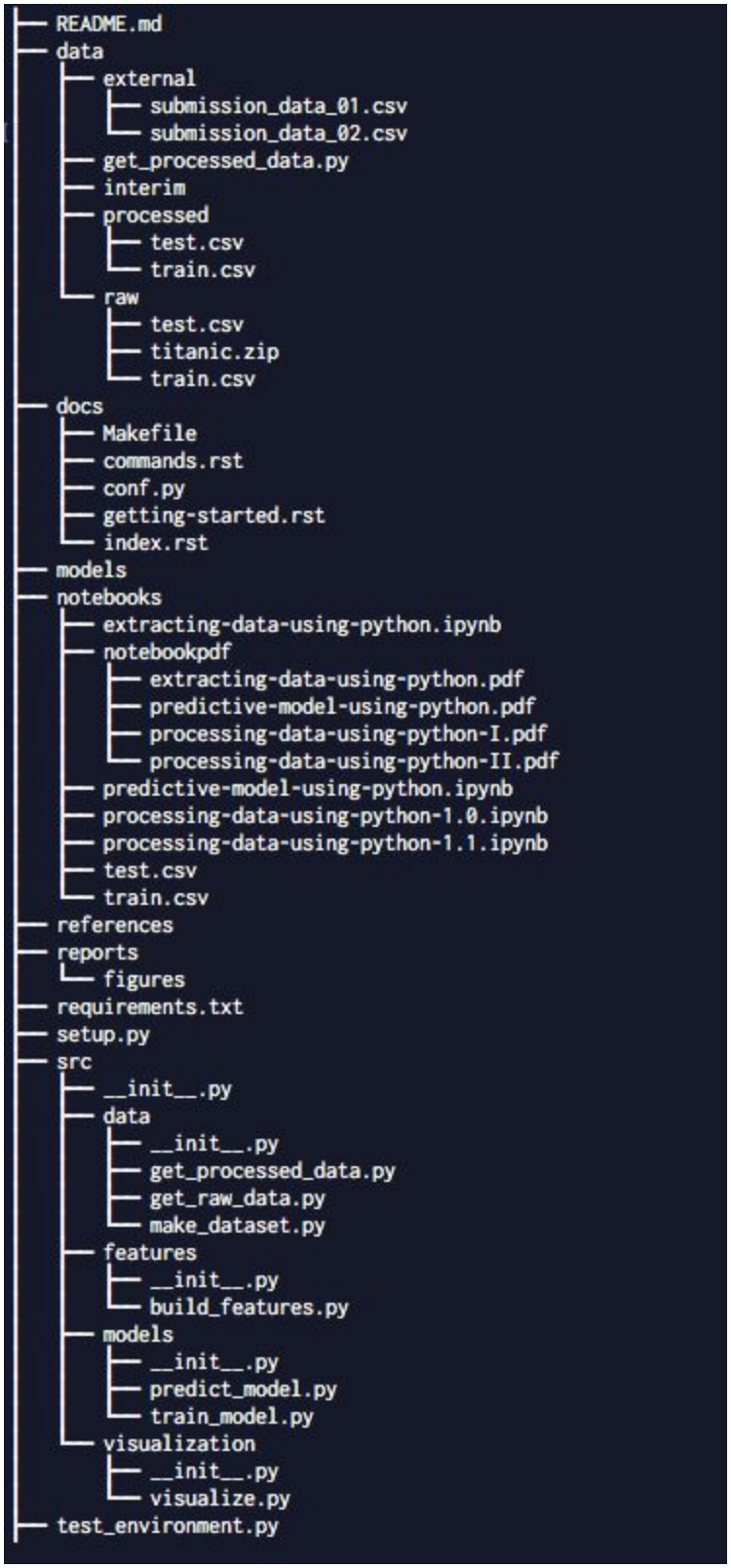
https://www.kaggle.com/c/titanic/data

Structure of the project:

This project structure contains 4 major directories that we mostly deal with.

1. *data* - it has train, test, raw & processed data
2. *notebook* - contains all the .ipyn jupyter notebooks
3. *src* - python code that is used to process data, make submissions, get the source data, perform feature engineering, and so on.
4. Apart from that, there are a couple of other files that are necessary such as *test_environment.py, requirement.txt*

Below is the screenshot for the complete folder structure for data science projects:


├── README.md
├── data
│   ├── external
│   │   ├── submission_data_01.csv
│   │   └── submission_data_02.csv
│   ├── get_processed_data.py
│   ├── interim
│   ├── processed
│   │   ├── test.csv
│   │   └── train.csv
│   └── raw
│   ├── test.csv
│   ├── titanic.zip
│   └── train.csv
├── docs
│   ├── Makefile
│   ├── commands.rst
│   ├── conf.py
│   ├── getting-started.rst
│   └── index.rst
├── models
├── notebooks
│   ├── extracting-data-using-python.ipynb
│   ├── notebookpdf
│   │   ├── extracting-data-using-python.pdf
│   │   ├── predictive-model-using-python.pdf
│   │   ├── processing-data-using-python-I.pdf
│   │   └── processing-data-using-python-II.pdf
│   ├── predictive-model-using-python.ipynb
│   ├── processing-data-using-python-1.0.ipynb
│   ├── processing-data-using-python-1.1.ipynb
│   ├── test.csv
│   └── train.csv
├── references
├── reports
│   └── figures
├── requirements.txt
├── setup.py
├── src
│   ├── __init__.py
│   ├── data
│   │   ├── __init__.py
│   │   ├── get_processed_data.py
│   │   ├── get_raw_data.py
│   │   └── make_dataset.py
│   ├── features
│   │   ├── __init__.py
│   │   └── build_features.py
│   ├── models
│   │   ├── __init__.py
│   │   ├── predict_model.py
│   │   └── train_model.py
│   └── visualization
│   ├── __init__.py
│   └── visualize.py
└── test_environment.py

Notebooks:

1. *extracting-data-using-python.ipynb* - contains code for extracting the data from the Kaggle website
2. *processing-data-using-python-1.0.ipynb* - contains the code for cleaning & processing train data to build a predictive model
3. *processing-data-using-python-1.1.ipynb* - contains the code for cleaning & processing train data to build a predictive model
4. *predictive-model-using-python.ipynb* - contains code to build baseline model and logistic regression predictive model

Validation:

For validating the final predictive model, here we are creating a Baseline predictive model and comparing the final Logistic Regression model with the Baseline model.
For the Baseline model, we have the accuracy of around 0.61 ~ 61%

For the Logistic Regression model, we have accuracy more than the Baseline model ie. 0.83 ~ 83%

Also, we are validating our model wrt Kaggle where we have the actual survival rate