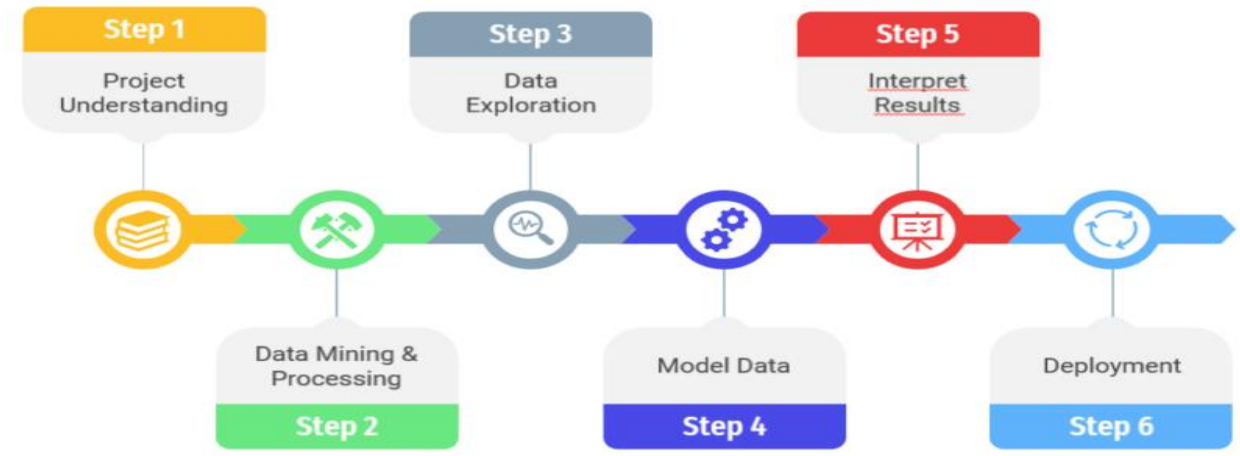
Project name: Laptop Price dataset

Introduction:

This project's aim is to use any appropriate data source, perform some exploratory data analysis (EDA), and build one or more models that address a useful prediction and/or interpretation problem in any domain of interest.

Explain Laptop price

A laptop**,** laptop computer**,** or notebook computer is a small, portable personal computer (PC) with a screen and alphanumeric keyboard. These typically have a clamshell form factor, typically having the screen mounted on the inside of the upper lid and the keyboard on the inside of the lower lid, although 2-in-1 PCs with a detachable keyboard are often marketed as laptops or as having a laptop mode. Laptops are folded shut for transportation, and thus are suitable for mobile use. Its name comes from the lap, as it was deemed practical to be placed on a person's lap when being used. Today, laptops are used in a variety of settings, such as at work, in education, for general home computer use. How to used Data Analysis and apply Machine Learning Algorithm's. So the project is or problem is sub class or sub models so over project are pieces that way we start. Greetings from the Kaggle bot! This is an automatically-generated kernel with starter code demonstrating how to read in the data and begin exploring. Click the blue "Edit Notebook" or "Fork Notebook" button at the top of this kernel to begin editing. Understanding the business or activity that your data project is part of is key to ensuring its success and the first phase of any sound data analytics project. To motivate the different actor's necessary to getting your project from design to production, your project must be the answer to a clear organizational need. Before you even think about the data, go out and talk to the people in your organization whose processes or whose business you aim to improve with data. Then, sit down to define a timeline and concrete key performance indicators. I know, planning and processes seem boring, but, in the end, they are an essential first step to kick start your data initiative



Project component:

1. Design:

The project centered on the problem of Laptop Price, it is become now days in markets it is real world problem, It's depended a lots of features Define Project Goal**. ...**

- Determine Outcomes, Objectives, and/or Deliverables. ...
- Identify Risks, Constraints, and Assumptions. ...
- Prepare a Visual Aid. ...
- Ballpark Your Budget. ...
- Determine Approval and Monitoring Processes. ...
- Use Proper Project Design Documents.

2. Dataset:

If you're working on a personal project or playing around with a dataset or an API, this step may seem irrelevant. It's not. Simply downloading a cool open dataset is not enough. In order to have motivation, direction, and purpose, you have to identify a clear objective of what you want to do with data: a concrete question to answer, a product to build, Kaggle and UCL which contain a lots of data one is Laptop price prediction at csv file format. Once you've gotten your goal figured out, it's time to start looking for your data, the second phase of a data analytics project. Mixing and merging data from as many data sources as possible is what makes a data project great, so look as far as possible.

- **Clean Data:**

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The next step (and by far the most dreaded one) is cleaning your data. You've probably noticed that even though you have a country feature, for instance, you've got different spellings, or even missing data. It's time to look at every one of your columns to make sure your data is homogeneous and clean. Now that you have clean data, it's time to manipulate it in order to get the most value out of it. You should start the data enrichment phase of the project by joining all your different sources and group logs to narrow your data down to the essential features. One example of that is to enrich your data by creating time-based features, such as:

- Preprocessing the data
- Cleaning the data
- Encoding the data

Importing the Libraries:

Loading the Dataset:

Displaying the data:

Information about all the columns in the Dataset:

- Description of Data:
- Correlation between Data:
- The shape of the Dataset:
- Heatmap of the Dataset:
- Data Visualization

3. Algorithms:

When collecting, preparing, and manipulating your data, you need to be extra careful not to insert unintended bias or other undesirable patterns into it. Indeed, the data that is used in building machine learning models and AI algorithms is often a representation of the outside world, and thus can be deeply biased against certain groups and individuals. One of the things that make people fear data and AI the most is that the algorithm isn't able to recognize bias. As a result, when you train your model on biased data, it will interpret recurring bias as a decision to reproduce and not something to correct.

- Regression Algorithms
- Linear regression
- Decision Tree Regression

4. Tools used:

- Jupiter notebook, Python 3.6 or 3.9
- Numpy, pandas, seaborn, sklearn, Mathplotlib, a lot of more etc.
- Annocda
- Language: Python

The project will answer the following questions

Q1: Why we need Data preprocessing?

Answer: In this problem Data is string or some numerical format we solve it Stander format

So we stander format means that come apply a machine learning Algorithms apply easily

Data preprocessing: is the process of transforming raw data into an understandable format. The quality of the data should be checked before applying machine learning or data mining algorithms. Data preprocessing is an important task. It is a data mining technique that transforms raw data into a more understandable, useful and efficient format. Data has a better idea. This idea will be clearer and understandable after performing data preprocessing.

Q2: What is data visualization?

Data visualization is the process of translating large data sets and metrics into charts, graphs and other visuals. The resulting visual representation of data makes it easier to identify and share real-time trends, outliers, and new insights about the information represented in the data.

Data visualization "refers to transforming figures and raw data into visual objects: points, bars," line plots, maps, etc. By combining user-friendly and aesthetically pleasing features, these visualizations make research and data analysis much quicker and are also a powerful communication tool.

Q3: What is Machine Learning Model?

1. Size of the training data. It is usually recommended to gather a good amount of data to get reliable predictions. ...
2. Accuracy and/or Interpretability of the output. ...
3. Speed or Training time. ...
4. Linearity. ...
5. Number of features.

A model represents what was learned by a machine learning algorithm. The model is the "thing" that is saved after running a machine learning algorithm on training data and represents the rules, numbers, and any other algorithm-specific data structures required to make predictions. ML supports three types of ML models: binary classification, multiclass classification, and

regression. The type of model you should choose depends on the type of target that you want to predict. When most dependent variables are numeric, logistic regression and SVM should be the first try for classification. These models are easy to implement, their parameters easy to tune, and the performances are also pretty good. So these models are appropriate