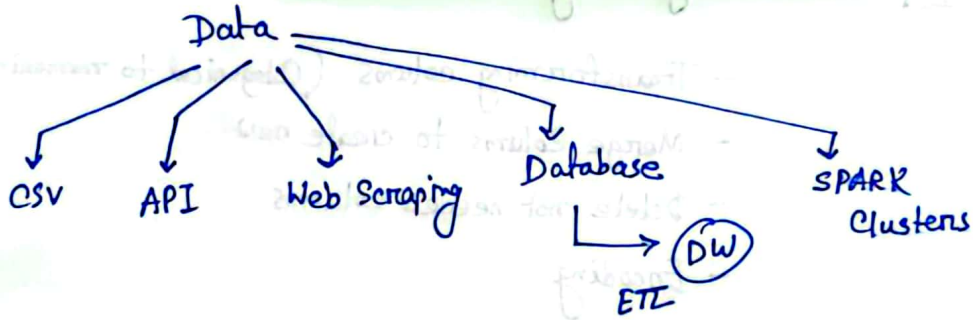
Machine Learning Development Life Cycle: (MLDLC)

There are 9 steps in a Machine Learning life cycle:

1 Frame the problem:

- Define exactly what is the problem
- Who are the customers
- What should end product look like
- How much it will cost
- How many members are needed.
- offline / online
- Which algorithms to use
- How the data will be collected

2 Gathering the data:



[3] Data preprocessing: (cleaning and Transforming)

→ Remove Duplicates, missing values, outliers
→ Update missing values
→ Scaling data
→

[4] EDA (Exploratory Data Analysis)

- Analyse data
- Study the relation of independent and target feature
- Find correlation
- Find data details
- Do visualization
- Univatciate Analysis, Bivanite, Multivariate analysis
- Detect outliers
- Balance Imbalanced dataset

[5] Feature engineering and Selection:

- Transforming colums (Categorical to numerical)
- Merge Colums to create new
- Delete not needed columns
- Encoding

6 Model training, Evaluation and Selection

→ Try Seperate train, test dataset
→ Train Model with different Algorithms
→ Check accuracy, Evaluate
→ Select Best Algo to train Model
→ Hyperparameter tune

7 Model Deployment:

→ Make your model work in a software
(build software using your model)
→ Creating pickle files to use in the software
→ Deploy your model

8 Testing:

→ A/B testing
- To check how your model performing
- if not you go to the previous steps and make changes on those and check what's wrong.

9 Optimize:

- launch model at server
- Take model backups, data backup
- load balancing
- Rollback automation
- How frequently model will retrain