**Overview**

In this series of videos, we’ll be focusing on an end-to-end machine learning. Like how these problem statements working in real life in data science.

**What is the problem statement which we are trying to solve through machine learning?**

Predicting house prices by giving some number of features (or columns/values) is the main target of this software. There are number of things needs to be considered initially.

1. First define the number of output variables (univariate, bivariate or multivariate).
2. The machine learning paradigm of the problem
3. Type of problem
4. What Algorithm to be used

As we do know that this is a supervised learning problem statement as the data has labels, It can only now be divided into either classification or regression paradigm

As we are predicting values and not Class labels like Yes/No or Quality (1-5), this definitely is a regression problem statement.

**Selecting a Performance Measure**

For regression problem statement we have a couple of performance measures that we can pick, most commonly used are:

MAE: Mean Absolute Error: Does not penalize large errors

MSE: Mean Squared Error: Penalizes large errors

RMSE: Root Mean Squared Error: Penalizes large errors

R2: Measures the strength of the relationship between independent and dependent variables by measuring the part of the variance.

We will be using RMSE for this problem statement.

**Let’s now get the data and prepare the environment.**

Preparing the environment: You have to download and anaconda or mini anaconda according to your computer OS and specs. Then just create the environment through conda command given in the description

**Let’s now switching to the notebook.**

1. Get the data, store it in pandas data frame.
2. Explore the data (It will take around 10 to 20 % of the time in this project)
3. Prepare the data. (It will take most of the time, around 60 to 70% time of this project)
4. Now shortlist the models which performs better
5. Fine tune the results
6. Present the solution and Launch!