**Project Overview**

The Boston housing market is highly competitive, and you want to be the best real estate agent in the area. To compete with your peers, you decide to leverage a few basic machine learning concepts to assist you and a client with finding the best selling price for their home. Luckily, you’ve come across the Boston Housing dataset which contains aggregated data on various features for houses in Greater Boston communities, including the median value of homes for each of those areas. Your task is to build an optimal model based on a statistical analysis with the tools available. This model will then be used to estimate the best selling price for your clients' homes.

**Project Highlights**

This project is designed to get you acquainted with the many techniques for training, testing, evaluating, and optimizing models, available in sklearn.

Things you will learn by completing this project:

* How to explore data and observe features.
* How to train and test models.
* How to identify potential problems, such as errors due to bias or variance.
* How to apply techniques to improve the model, such as cross-validation and grid search.

**Starting the Project**

For this assignment, you can find the boston\_housing folder containing the necessary project files on the [**Machine Learning projects GitHub**](https://github.com/udacity/machine-learning), under the projects folder. You may download all of the files for projects we'll use in this Nanodegree program directly from this repo. Please make sure that you use the most recent version of project files when completing a project!

This project contains three files:

* boston\_housing.ipynb: This is the main file where you will be performing your work on the project.
* housing.csv: The project dataset. You'll load this data in the notebook.
* visuals.py: This Python script provides supplementary visualizations for the project. Do not modify.

In the Terminal or Command Prompt, navigate to the folder containing the project files, and then use the command jupyter notebook boston\_housing.ipynb to open up a browser window or tab to work with your notebook. Alternatively, you can use the command jupyter notebook or ipython notebookand navigate to the notebook file in the browser window that opens. Follow the instructions in the notebook and answer each question presented to successfully complete the project. A **README** file has also been provided with the project files which may contain additional necessary information or instruction for the project.

## Submitting the Project

### Evaluation

Your project will be reviewed by a Udacity reviewer against the [**Predicting Boston Housing Prices project rubric**](https://review.udacity.com/#!/rubrics/103/view). Be sure to review this rubric thoroughly and self-evaluate your project before submission. All criteria found in the rubric must be meeting specifications for you to pass.

### Submission Files

Following files would be needed for evaluation:

* The boston\_housing.ipynb notebook file with all questions answered and all code cells executed and displaying output.
* An **HTML** export of the project notebook with the name **report.html**. This file must be present for your project to be evaluated.

When you are ready to submit your project, There are three ways in which your project can be submitted for evaluation.

1. If you ran the notebook from your **local machine** collect the above files and compress them into a single archive for upload.
2. You could supply the above files on your **GitHub Repo** in a folder named boston\_housing for ease of access. This would build a good Github profile in parallel.
3. If you worked using the **workspace inside the classroom** you can submit your project directly for review using the submit button at the end of project, just make sure you download the HTML report to local machine and upload it back into workspace before submitting your report ( More details in the next lesson).

## Project Submission

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### I'm Ready!

When you're ready to submit your project, click on the **Submit Project** button at the bottom of the page.

### What's Next?

You will get an email as soon as your reviewer has feedback for you. In the meantime, review your next project and feel free to get started on it or the courses supporting it!