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## **PROJECT**

## **Predicting Boston Housing Prices**

A part of the Machine Learning Engineer Nanodegree Program

PROJECT REVIEW NOTES **Requires Changes** SHARE YOUR ACCOMPLISHMENT 1 SPECIFICATION REQUIRES CHANGES Great first submission!! 👍 You almost nailed it! It was really nice to read your answers, it clearly shows your depth of understanding and grasp on the concept. just few more explanation and your explanations would be solid as rock. Good Work!! All the best!! Happy Learning!! **Data Exploration** All requested statistics for the Boston Housing dataset are accurately calculated. Student correctly leverages NumPy functionality to obtain these results. Good work! All values are calculated using numpy. Try formatting the values in amount format like: Standard Deviation: \$165,171.13, to look better.:) Student correctly justifies how each feature correlates with an increase or decrease in the target variable. Good explanation! (Optional) To do more, try plotting the correlation, it could boost your intuition. example **Developing a Model** Student correctly identifies whether the hypothetical model successfully captures the variation of the target variable based on the model's R^2 score. The performance metric is correctly implemented in code. Nice Explanation! R^2 really helps in many cases to evaluate performance of model which are regression in nature. Here a blog for you, worth checking out. Student provides a valid reason for why a dataset is split into training and testing subsets for a model. Training and testing split is correctly implemented in code. Great explanation! its really important generalise the model well. :)

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## **Analyzing Model Performance**

Student correctly identifies the trend of both the training and testing curves from the graph as more training points are added. Discussion is made as to whether additional training points would benefit the model.

Good observation! What other visual evidences could you see from the above graph?

Student correctly identifies whether the model at a max depth of 1 and a max depth of 10 suffer from either high bias or high variance, with justification using the complexity curves graph.

You got it correct, nice observation!

Student picks a best-guess optimal model with reasonable justification using the model complexity graph.

Very good Justification! Nice 👌



## **Evaluating Model Performance**

Student correctly describes the grid search technique and how it can be applied to a learning algorithm.

Nice Explanation!, but do you think you always need cross validation for grid search? Also you could explain, how the grid search works, for eg: how does it finds best parameters, does it do exhaustive search over parameter space? or use any heuristics to come up with optimal parameters?

you could explore more here.

Student correctly describes the k-fold cross-validation technique and discusses the benefits of its application when used with grid search when optimizing a model.

Good explanation again!, but do you think only advantage is to use reduced variance here? with grid search and cross validation.

This nice article could be helpful in exploring the reason.

Student correctly implements the fit\_model function in code.

Correct implementation!

Student reports the optimal model and compares this model to the one they chose earlier.

Great! did the result surprise you?

Student reports the predicted selling price for the three clients listed in the provided table. Discussion is made for each of the three predictions as to whether these prices are reasonable given the data and the earlier calculated descriptive statistics.

Good justification! You could use the stated statics in justification in comparison to make it more good.

Student thoroughly discusses whether the model should or should not be used in a realworld setting.

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Good discussion here! Good use of explanatory statistics in reasoning.

For Inflation, Did you noticed from the data definition that the house price was already scaled to take 35 years of inflation in account. :)

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