Evaluation of model

·Strengths

Our model takes the least coefficients into consideration as well as keeps most of effective information. According to the sensitivity analysis, when moving away one coefficient, the R2 reduces greatly.

Our model havs a perfect complementarity. It can be applied into the situation of big data, because we have trained a random forest model so that we can input the data set and get the results rapidly. However, the random forest has really bad explanation to its result, hiding the mathematical relationship. In comparison, the multiple linear regression model has a solid math foundation, which can be accepted more easily. But its accuracy of prediction and the ability to deal big data is worse than the random forest model. We use both models so that we can combine their advantages and avoid disadvantages.

Possible improvements

The model simply uses regional economic indicators to measure，and ignores Humanistic factor。In fact, even if the two cities are both near the sea, there are differences in the way to play。Some cities’ resident generally prefer sailboat for a short trip to the sea，but thereare also cities where the majority of people can only enjoy the pleasure of speed .

The model describe regional effect roughly, just thinking of it in terms of the average listing price of all sailboats，which can only reflects the relative listing prices of sailboats in the area. However, regional effect should include the preference for different types of sailing boats or other aspects.

Future discussion

We can use more regression algorithms to compare which one is better. For example, the artificial neutral networks is a algorithm that has wide application and bright prospect. It has the ability to carry out high precision regression and prediction。Otherwise, as for linear regression is too simple, it doesn't reflect the real world in most of times. So a nonlinear regression model with better applicability can be used。By comparing different models and learning from each other, we are able to gain a better understanding of the used sailboat market。