

## **Rebuttal from group 6**

### **Response to review 1:**

The reason why cross validation is applied to the Ridge and Lasso regularization only, because it is necessary to tune the hyper parameter. However, in AIC and BIC, no hyper parameter is necessary to tune.

I do agree that converting age and fare to categorical is not justify. That is a mistake I made. At first I convert them to categorical for simplicity, I do realize that simplicity do not justify such decision and it may result in losing information.

For the introduction part, I simply state that this project is trying to replicate the lab from Chapter 6.

### **Response to review 2:**

I will add more detail (the model configurations, hyperparameter settings) and fix the grammatical error to the report. Thanks for your advice.

### **Response to review 3:**

I will try to use grid search for penalty strength and solver to further improve the accuracy.

### **Response to review 4:**

This project does not employ forward or backward search, as explained in the presentation, this dataset and search space is relatively small, best subset approach will guarantee a better result than forward/backward search, therefore, only best subset is used.

Thanks for your advice on annotating the graphs.

My focus on the project is to explore how various model selection method works in logistics regression problem. Therefore, I do little analysis on finding the real life connection in the Titanic problem.

### **Response to review 5:**

My focus on the project is to explore how various model selection method works in logistics regression problem. Therefore, I try to make everything else as simple as possible. But I do agree that if someone would like to achieve maximal accuracy, explore a possible information in the data is crucial.

Thanks for the advice on extending the alpha in the graph.

I do find it strange that the accuracy is equal for AIC and BIC. However, I repeat the experiment several time and check the code carefully, but it still yield the same accuracy. Therefore, I consider that as coincidence. But I certainly agree with your concern.