Data Science Decal Homework 2

A degree of 3, and a C parameter of 0.01 seemed to classify the data nicely. It was clear since the degree function resulted in a lower classification score past 3, and also made a huge jump from a degree 2 classifier. C is the cost of classification, and we know that a larger C results in lower bias, but higher variance. This is because we penalize the cost of misclassification a lot. A smaller C results in more bias, and lower variance. The degree, d, was factored more, so it means that the datasets probably had a good pattern, so classification schemes with variable C's would not affect the results as much. The higher the degree of d, the better it is classified, but may result in overfitting. Thus, the lower C values combined with higher degree would make the classification overfit, while larger C values with lower degrees would be underfit.

Gamma values and their corresponding scores
When gamma is small, we can't capture the full shape of the data. So increasing gamma values increased the score, and decreased the error. The table can be found below.