CS-596 Machine Learning Homework Assignment 2

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**Algorithm and Decision,**

Normalization:

I tried two ways to normalize the data.

1. Scale values to be 0 to 1: In NumPy, I am able to get the max value and the min value by list built-in functions. After that, writing an equation likes it’s numeric. The NumPy will calculate all elements by the same equation.

Code:

value\_max, value\_min = sat.max(), sat.min()

sat = (sat - value\_min)/(value\_max - value\_min)

2. Taking mean off: At first, using numpy built-in function mean(), we can get mean values in data. Changed the sat – value\_min to sat – mean. Then, the result will be what I need.

gradientDescent: Three parts

1. residualError: We know that

residualError = np.dot(X,theta) - y

gradient = (1/m)\*(transposedX.dot(residualError))









