Taxing Authority of Saratoga, NY

Intro:

Many of the town’s local services such as our local schools, public libraries, and emergency services are funded through property taxes. In order to determine the appropriate amount of tax to levy every year, we need to determine the value of your house as well as the property that it occupies.

In order to assess your property’s value, we used several models that included different components and house characteristics.

The following is the set of characteristics along with descriptions:

*lotSize*: the amount of land occupied by the property (in acres)

*landValue*: the intrinsic value of just the land itself (in dollars)

*waterfrontDummy*: determines if the house is set by a waterfront

*centralAirDummy*: determines if heating and cooling is delivered centrally

*newConstructionDummy*: determines if the house was newly built

*age*: the age of the house (in years)

*ageSq*: the possibility of changing price behavior of age as it increases

*bedrooms*: the number of bedrooms in the house

*bathrooms*: the number of bathrooms in the house

*heating*: how the house the heated; electric, hot water/steam, or hot air

*livingArea*: the amount of usable space in the house (in square feet)

*pctCollege*: the percentage of adults in the neighborhood that have a college degree

*valueSqFt*: landValue/livingArea to compute an intrinsic $/sq ft output

In order to predict the value of your house, we evaluated two different styles of models:

1. An independent model using a combination of the characteristics listed above (just to be clear: linear model).
2. The mean price of houses with similar characteristics as yours (just to be clear: a simple definition of KNN).

A calculation was performed to determine how accurate our models were in predicting house values. Because these models are projections, each method carries a certain amount of error. Our objective is to minimize this error. In doing so, we found that Model 1 carries less error than Model 2. This indicates that Model 1 is a better assessment of your property value so that your property taxes are computed more accurately.