## Impact of Each Feature on the Prediction Variable
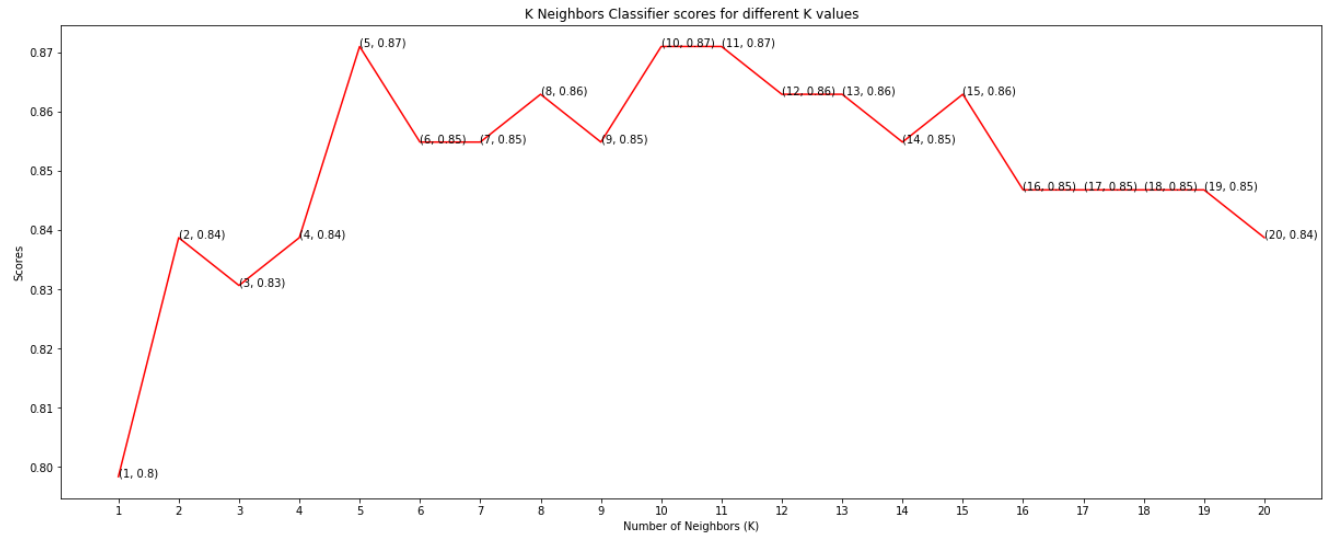
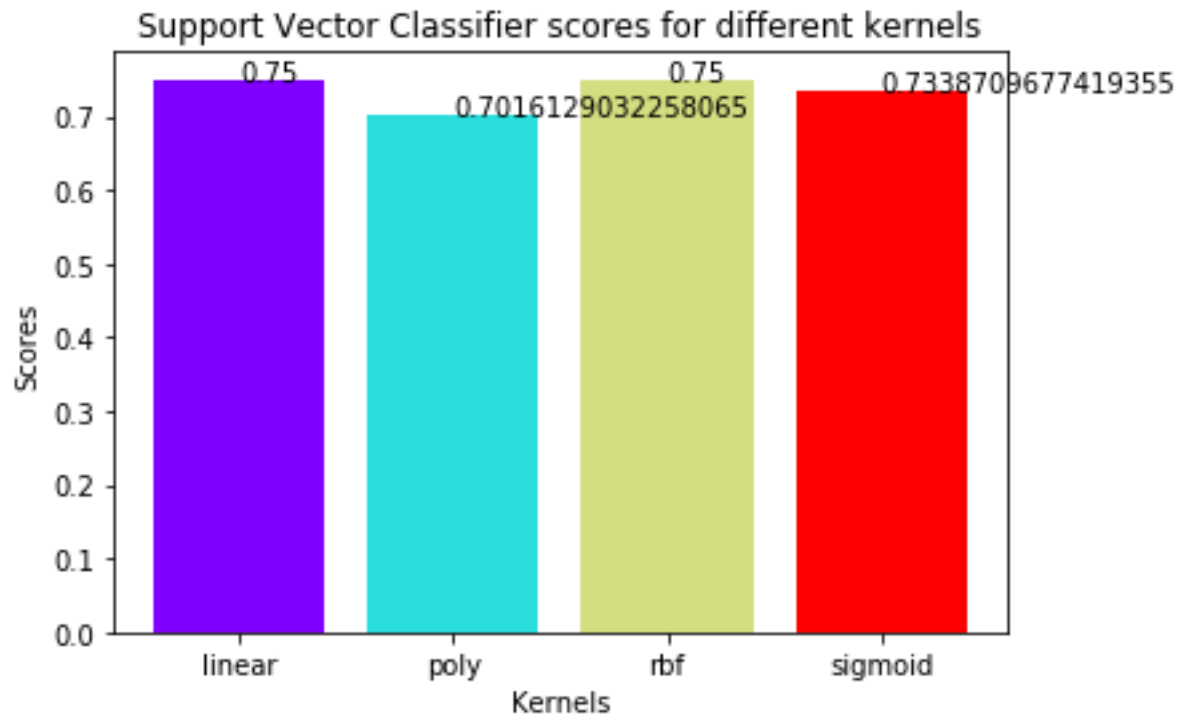| | |
|---|---|
| Delay | -0.007311 |
| Gender (Male) | 0.068131 |
| Gender (Female) | -0.068131 |
| Age | 0.042020 |
| Mini Mental State Examination | 0.056126 |
| Clinical Dementia Rating | 0.393081 |
| Estimated Total Intracranial Volume | -0.430935 |
| Normalize Whole Brain Volume | -0.062057 |
| Atlas Scaling Factor | -0.336954 |

## Statistics of Data

| | Target | Delay | Age | EDUC | MMSE | CDR | eTIV | nWBV | AS0 | Visit_1 |
|---|---|---|---|---|---|---|---|---|---|---|
| count | 373 | 3.73E+02 | 3.73E+02 | 3.73E+02 | 3.73E+02 | 3.73E+02 | 3.73E+02 | 3.73E+02 | 3.73E+02 | 373 |
| mean | 0.589812 | -3.27E-17 | -4.26E-16 | -8.27E-17 | 6.44E-16 | -4.94E-17 | 7.62E-17 | -4.47E-16 | 8.34E-16 | 0.402145 |
| std | 0.664461 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 0.490989 |
| min | 0 | -9.38E-01 | -2.23E+00 | -2.99E+00 | -6.36E+00 | -7.78E-01 | -2.17E+00 | -2.31E+00 | -2.32E+00 | 0 |
| 25% | 0 | -9.38E-01 | -7.88E-01 | -9.04E-01 | -9.28E-02 | -7.78E-01 | -7.45E-01 | -7.97E-01 | -6.99E-01 | 0 |
| 50% | 0 | -6.79E-02 | -1.76E-03 | 1.40E-01 | 4.52E-01 | -7.78E-01 | -1.03E-01 | -1.53E-02 | -1.06E-02 | 0 |
| 75% | 1 | 4.38E-01 | 6.53E-01 | 4.88E-01 | 7.25E-01 | 5.59E-01 | 6.19E-01 | 7.13E-01 | 7.07E-01 | 1 |
| max | 2 | 3.22E+00 | 2.75E+00 | 2.93E+00 | 7.25E-01 | 4.57E+00 | 2.93E+00 | 2.90E+00 | 2.84E+00 | 1 |

| | Visit_2 | Visit_3 | Visit_4 | Visit_5 | Gender_0 | Gender_1 | SES_1.0 | SES_2.0 | SES_3.0 | SES_4.0 | SES_5.0 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| count | 373 | 373 | 373 | 373 | 373 | 373 | 373 | 373 | 373 | 373 | 373 |
| mean | 0.386059 | 0.155496 | 0.040214 | 0.016086 | 0.571046 | 0.428954 | 0.235925 | 0.276139 | 0.219839 | 0.198391 | 0.018767 |
| std | 0.487498 | 0.362864 | 0.196726 | 0.125975 | 0.495592 | 0.495592 | 0.425146 | 0.447687 | 0.414694 | 0.399324 | 0.135883 |
| min | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50% | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75% | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| max | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

# Accuracy Scores of KNN Algorithm when Number of Neighbors Changed



K Neighbors Classifier scores for different K values

# Accuracy Scores of SVM when Different Kernels were used



Support Vector Classifier scores for different kernels

# Error Values for Each Algorithm

|  | Linear Regression | K-Nearest Neighbors | Support Vector Machine |
|---|---|---|---|
| Root Mean Square Error | 0.30399743103099924 | 0.2839809171235324 | 0.2978416985906353 |