ANALYSIS OF R\_SCORE for the given dataset insurance\_pre

Multiple Linear Regression

R score value is 0.78

Support Vector machine

|  |  |  |
| --- | --- | --- |
| Kernel | Gamma | R\_score |
| ***linear*** | ***scale*** | -0.01 |
| ***Poly*** | ***scale*** | -0.07 |
| ***rbf*** | ***scale*** | -0.08 |
| ***sigmoid*** | ***scale*** | -0.07 |
| ***linear*** | ***auto*** | -0.01 |
| ***Poly*** | ***auto*** | -0.07 |
| ***rbf*** | ***auto*** | -0.08 |
| ***sigmoid*** | ***auto*** | -0.07 |

Decision Tree

|  |  |  |
| --- | --- | --- |
| Criterion | Splitter | R\_score |
| ***squared\_error*** | ***Best*** | 0.68 |
| ***friedman\_mse*** | ***Best*** | 0.67 |
| ***absolute\_error*** | ***Best*** | 0.65 |
| ***poisson*** | ***Best*** | 0.71 |
| ***squared\_error*** | ***random*** | 0.69 |
| ***friedman\_mse*** | ***random*** | 0.71 |
| ***absolute\_error*** | ***random*** | 0.73 |
| ***poisson*** | ***random*** | 0.72 |

Random Forest

|  |  |  |
| --- | --- | --- |
| Criterion | n\_estimators | R\_score |
| ***squared\_error*** | ***100*** | 0.85 |
| ***friedman\_mse*** | ***100*** | 0.85 |
| ***absolute\_error*** | ***100*** | 0.85 |
| ***poisson*** | ***100*** | 0.85 |
| ***squared\_error*** | ***500*** | 0.85 |
| ***friedman\_mse*** | ***500*** | 0.85 |
| ***absolute\_error*** | ***500*** | 0.85 |
| ***poisson*** | ***500*** | 0.85 |
| ***squared\_error*** | ***10*** | 0.83 |
| ***friedman\_mse*** | ***10*** | 0.83 |
| ***absolute\_error*** | ***10*** | 0.83 |
| ***poisson*** | ***10*** | 0.83 |

n\_estimator =100, r\_score value is 0.85

n\_estimator =10, r\_score value is 0.83

when comparing with all, Random forest is the best model because it provides 85% accuracy so I have chosen Random forest.