**Simple vector Machine**:

Tried multiple tunning parameters and obtained the r2\_score values. In which poly has obtained the good score 0.637006. But while compared to another model this is not much suitable for this dataset.

|  |  |
| --- | --- |
| **kernel** | **r\_score** |
| rbf | -0.057317309 |
| C=0.01 | -0.0574795 |
| C=0.10 | -0.057317309 |
| C=1.00 | -0.057418394 |
| C=10.00 | -0.056807593 |
| C=100.00 | -0.050726023 |
| C=1000.00 | 0.006768344 |
| C=3000.00 | 0.123227566 |
| Poly | -0.057103875 |
| C=10.00 | -0.053667205 |
| C=100.00 | -0.019802139 |
| C=1000.00 | 0.266163709 |
| C=2000.00 | 0.481002816 |
| C=3000.00 | 0.637006422 |
| Sigmoid | -0.057209359 |
| C=100.00 | -0.030453515 |
| C=1000.00 | 0.18506862 |
| C=3000.00 | 0.591363021 |

**Decision Tree**:

With Decision Tree generated model based on their respective tuning parameters. From which poisson criterion with splitter best has given high score(0.945383) compared to all other models.

|  |  |  |
| --- | --- | --- |
| **Criterion** | **Splitter** | **r\_score value** |
| Squared\_error | best | 0.91886585 |
| Squared\_error | random | 0.87262418 |
| friedman\_mse | best | 0.91415591 |
| friedman\_mse | random | 0.7794175 |
| absolute\_error | best | 0.95427703 |
| absolute\_error | random | 0.78420585 |
| poisson | best | 0.94538308 |
| poisson | random | 0.90838424 |