SVM ( before Standardisation )

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Hyper Parameter | Linear (r Value) | Rbf(Non Linear)(r Value) | Poly(r Value) | Sigmoid(r Value) |
| C1 | 0.9644017219937281 | -0.0572975299330134 | -0.04804028510994862 | -0.05751179554967911 |
| C10 | -5.459517349832322 | -0.055602888588774935 | 0.05742345393905024 | -0.057741378202418536 |
| C100 | -354.9843956859154 | -0.029072866684942023 | 0.5960711168031669 | -0.06004077713954303 |
| C500 |  | 0.057120776556386255 | 0.7083218423453292 | -0.07033891296643624 |
| C1000 |  | 0.175373531545581 | 0.7763268169156721 | -0.08339200748399755 |
| C2000 |  | 0.32245618356394135 | 0.8672573871456739 | -0.11009961229893728 |
| C3000 |  | 0.32245618356394135 | 0.8972445037179414 | -0.13760910482029787 |

SVM ( After Standardisation )

In the context of SVM, C parameter is a regularisation or hyper parameter…its controls the balance between fitting the training data closely and having a simple, smooth decision boundary. Adjusting C, allows us to fine tune the model’s behaviour.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Hyper Parameter | Linear (r Value) | Rbf(Non Linear)(r Value) | Poly(r Value) | Sigmoid(r Value) |
| C=1 | -0.05430640837749956 | -0.05738793836362932 | -0.05690566056365687 | -0.05707852029660976 |
| C=10 | -0.025940227388612902 | -0.05650312757099285 | -0.051688896983294264 | -0.05341286301334991 |
| C=100 | 0.22808825456856685 | -0.04769039373275086 | -0.0004028290583966143 | -0.017390001205799477 |
| C=500 | 0.8342306840275349 | -0.009095993283060544 | 0.2062532603721806 | 0.13206108331328836 |
| C=1000 | 0.9574591553768788 | 0.03531546899203952 | 0.41947129315785125 | 0.2953643924729247 |
| C=2000 | 0.9785864843515203 | 0.12256386208682957 | 0.6657570948482645 | 0.5744021781022014 |
| C=3000 | 0.9894755713861103 | 0.20337923342191822 | 0.7790127001937835 | 0.7500111037542994 |

Decision Tree

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Criterion | Splitter | max\_depth | max\_leaf\_nodes | min\_samples\_split | min\_samples\_leaf | R score |
| Friedman\_mse | best | int | int | min | min | 0.983463442216407 |
| Absolute\_error | Best | Int | int | min | min | 0.9739525675219048 |
| poisson | best | int | int | min | min | 0.9489877795776935 |
| Friedman\_mse | random | int | int | min | min | 0.953229980156826 |
| Absolute\_error | random | int | int | min | min | 0.975063215847621 |
| poisson | random | int | int | min | min | 0.9465098466069186 |