1. **Multiple Linear Regressions:**

Default Score: 0.9358680970046241

Post data preprocessing score: 0.9358680970046518

1. **Support Vector Machine: <Regression>**

|  |  |  |  |
| --- | --- | --- | --- |
| Kernel | C<Penalty score> | R2\_score | |
| No Data preprocessing | Data preprocessing - StandardScaler |
| linear | 0 | 0.8950779234313312 | -0.05569157045504447 |
| linear | 0.4 | 0.9439403318727383 | -0.056768120125677335 |
| poly | 0 | -0.050890117824376135 | -0.05710387514922144 |
| poly | 7 | 0.0003139656520918521 | -0.05481174839831082 |
| rbf | 0<No Change> | -0.05731730927224388 | -0.057418393916219834 |
| sigmoid | 0<No Change> | -0.0574991971677592 | -0.057209358534722865 |

1. **Decision Tree: <Regression>**

Default Score: 0.9535299731993166

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **criterion** | **splitter** | **max\_features** | **r2\_score** |
| 1 | Squared\_error | best | 15 | 0.9360397811774501 |
| 2 | Squared\_error | random | 15 | 0.6429941108253381 |
| 3 | friedman\_mse | best | 5 | 0.9164700351873948 |
| 4 | friedman\_mse | random | 5 | 0.9592165460495146 |
| 5 | friedman\_mse | random | sqrt | 0.06796707842605798 |
| 6 | friedman\_mse | random | Log2 | 0.553793927954391 |
| 7 | Absolute\_error | best | 5 | 0.963205660164946 |
| 8 | Absolute\_error | best | sqrt | 0.42739438947329267 |
| 9 | Absolute\_error | best | Log2 | 0.8041423563735397 |
| 10 | Absolute\_error | random | 5 | 0.942555942191377 |
| 11 | Absolute\_error | random | sqrt | 0.9047457636072191 |
| 12 | Absolute\_error | random | Log2 | 0.36982361058218793 |
| 13 | poisson | best | 5 | 0.92052488189648 |
| 14 | poisson | best | Sqrt | 0.8300635801997542 |
| 15 | Poisson | best | Log2 | 0.5738599008630552 |
| 16 | poisson | random | 10 | 0.8657390646231864 |
| 17 | Poisson | random | Sqrt | 0.35749809827437573 |
| 18 | poisson | random | Log2 | 0.22297663472317908 |