**ASSIGNMENT REGRESSION ALGORITHM**

**Multiple Linear Regression R2 Value = 0.78**

**SUPPORT VECTOR ALGORITHM**

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| **Kernal** | **C value** | **R2 value** |
| rbf |  | -0.083 |
| gamma='scale' |  | -0.083 |
| gamma='scale' | C=1.0 | -0.083 |
| gamma='scale' | *coef0=0.0* | -0.083 |
| gamma='scale' | *tol=0.001* | -0.083 |
| gamma='scale' | *epsilon=0.1* | -0.083 |
| *shrinking=True* |  | -0.083 |
| *shrinking=True* | *epsilon=0.1* | -0.083 |
| *shrinking=True* | *cache\_size=200* | -0.083 |
| *shrinking=True* | *verbose=False* | -0.083 |
| *max\_iter=-1* |  | -0.083 |

**DECISION TREE ALGORITHM**

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| **criterion** | **splitter** | **R2 Value** |
| squared\_error |  | 0.68 |
| *friedman\_mse* |  | 0.70 |
| *absolute\_error* |  | 0.67 |
| poisson |  | 0.73 |
| squared\_error | best | 0.68 |
| squared\_error | random | 0.67 |
| *friedman\_mse* | best | 0.70 |
| *friedman\_mse* | random | 0.72 |
| *absolute\_error* | best | 0.66 |
| *absolute\_error* | random | 0.74 |
| poisson | best | 0.72 |
| poisson | random | 0.68 |
| *max\_depth=None* | best | 0.70 |
| *max\_depth=None* | random | 0.71 |
| *min\_samples\_split=2* | best | 0.67 |
| *min\_samples\_split=2* | random | 0.72 |
| *min\_samples\_leaf=1* | best | 0.69 |
| *min\_samples\_leaf=1* | random | 0.73 |
| *min\_weight\_fraction\_leaf=0.0* | best | 0.70 |
| *min\_weight\_fraction\_leaf=0.0* | random | 0.72 |
| *max\_features=None* | best | 0.68 |
| *max\_features=None* | random | 0.74 |
| *random\_state=None* | best | 0.68 |
| *random\_state=None* | random | 0.71 |
| *max\_leaf\_nodes=None* | best | 0.70 |
| *max\_leaf\_nodes=None* | random | 0.70 |
| *min\_impurity\_decrease=0.0* | best | 0.70 |
| *min\_impurity\_decrease=0.0* | random | 0.71 |
| *ccp\_alpha=0.0* | best | 0.69 |
| *ccp\_alpha=0.0* | random | 0.74 |
| *monotonic\_cst=None* | best | 0.68 |
| *monotonic\_cst=None* | random | 0.72 |

**RANDOM FOREST**

|  |  |  |
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| **Criterion** | ***n\_estimators*** | **R2 Score** |
| 'squared\_error' | 100 | 0.85 |
| *absolute\_error* | 100 | 0.82 |
| *friedman\_mse* | 100 | 0.85 |
| *poisson* | 100 | 0.85 |
| *max\_depth=None* | 10 | 0.84 |
| max\_depth=2 | random\_state=0 | 0.86 |
| *min\_samples\_split=2* | random\_state=0 | 0.85 |
| *min\_samples\_leaf=1* | random\_state=0 | 0.85 |
| *min\_weight\_fraction\_leaf=0.0* | random\_state=0 | 0.85 |
| *max\_features=1.0* | random\_state=0 | 0.85 |
| *max\_leaf\_nodes=None* | random\_state=0 | 0.85 |
| *min\_impurity\_decrease=0.0* | random\_state=0 | 0.85 |
| *bootstrap=True* | random\_state=0 | 0.85 |
| *oob\_score=False* | random\_state=0 | 0.85 |
| *n\_jobs=None* | random\_state=0 | 0.85 |
| *random\_state=None* | random\_state=0 | 0.85 |
| *verbose=0* | random\_state=0 | 0.85 |
| *warm\_start=False* | random\_state=0 | 0.85 |
| *ccp\_alpha=0.0* | random\_state=0 | 0.85 |
| *max\_samples=None* | random\_state=0 | 0.85 |
| *monotonic\_cst=None* | random\_state=0 | 0.85 |

**Best Model**

The green highlighted in Random Forest is the best fitted model