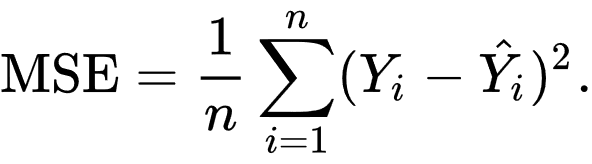
**MEAN SQUARED ERROR**In [statistics](https://en.wikipedia.org/wiki/Statistics), the **mean squared error** (**MSE**) or **mean squared deviation** (**MSD**) of an [estimator](https://en.wikipedia.org/wiki/Estimator) (of a procedure for estimating an unobserved quantity) measures the [average](https://en.wikipedia.org/wiki/Expected_value) of the squares of the [errors](https://en.wikipedia.org/wiki/Error_(statistics))—that is, the average squared difference between the estimated values and what is estimated.

The MSE is a measure of the quality of an estimator—it is always non-negative, and values closer to zero are better.



**R-Squared**

R-squared is a statistical measure of how close the data are to the fitted regression line. It is also known as the coefficient of determination, or the coefficient of multiple determination for multiple regression.

The definition of R-squared is straight-forward; it is the percentage of the response variable variation that is explained by a linear model. Or:

R-squared = Explained variation / Total variation

R-squared is always between 0 and 100%:

* 0% indicates that the model explains none of the variability of the response data around its mean.
* 100% indicates that the model explains all the variability of the response data around its mean.

Higher is better in our case

|  |  |  |  |
| --- | --- | --- | --- |
| Name | MSE | RS | Theta |
| Correctness | Close to 0 | Close to 100% |  |
| GDAavg1 | 204.6259 | 48.1391 |  |
| GDAavg2 | 195.4926 | 48.0422 |  |
| NEavg1 | 204.1926 | 48.0081 |  |
| NEavg2 | 194.0483 | 48.0459 |  |
| GAE1 | 286.388367 | 46.5774 | 64.3600  4.0111  2.5912  3.7043 |
| NEE1 | 279.945068 | 46.4947 | -54.1827  2.4488  1.3406  1.0630 |
| GAE2 | 288.3865 | 32.3311 | 72.4730  2.6122  2.8793  3.8909 |
| NEE2 | 284.591438 | 32.4794 | -17.3644  1.4260  1.2168  1.0308 |
| GAE3 | 331.919498 | 42.6007 | 60.1232  1.9901  3.0563  5.6655 |
| NEE3 | 331.260993 | 42.5377 | -38.36419  0.98548  1.27248  1.58942 |
| GAF1 | 880.776839 | 36.8260 | 136.5289  3.9853  5.8113  10.6041 |
| NEF1 | 870.796390 | 36.9025 | -43.4590  1.8561  2.3109  2.9215 |
| 161E1toE2 Gradient | 189.122 | 68.048 | 69.903190  14.383603 |
| 161E1toE2 Normal | 190.845965 | 68.048 | 15.822812  0.809112 |
| 161E2toE3 Gradient | 200.267 | 73.442 | 64.046059  17.837478 |
| 161E2toE3 Normal | 205.5959 | 73.442 | 0.829589  0.905712 |
| 161E3toF1 Gradient | 463.387482 | 89.0570 | 122.917756  30.406431 |
| 161E3toF1 Normal | 475.24365 | 89.0570 | 32.589713  1.500255 |
| 162E1toE2Gradient | 263.7867 | 72.8116 | 61.384609  15.801447 |
| 162E1toE2 Normal | 274.14017 | 72.8116 | 9.931252  0.800263 |
| 162E2toE3 Gradient | 195.2525 | 75.3009 | 66.983974  16.545811 |
| 162E2toE3 Normal | 201.886575 | 75.3009 | 22.821982  0.731490 |
| 162E3toF1 Gradient | 673.210945 | 84.6729 | 116.828272  34.406458 |
| 162E3toF1 Normal | 69.71996 | 84.6729 | 10.026848  1.663917 |