| Metric | Calculated per | Priority | Formula | Want to | Description |
|---|----------------|----------|---|----------|--|
| n (num observations) | Model | High | n/a | n/a | |
| p (num features) | Model | High | n/a | n/a | |
| u (residual) | Observation | High | $y - \hat{y}$ | Decrease | |
| SSE (sum of squared errors) | Model | Low | $\sum_{i=1}^{n} (\hat{y}_i - \bar{y})^2$ | Decrease | SSE measures the sample variation in the \hat{y}_i |
| SSR (sum of squared residuals) | Model | Low | $\sum_{i=1}^{n} (y - \hat{y})^2$ | Decrease | measures the sample variation in the u _i |
| SST (Total sum of squares) | Model | Low | $\sum_{i=1}^{n} (y_i - \bar{y})^2$ = SSE + SSR | Decrease | SST is a measure of the total sample variation in the y _i ; that is, it measures how spread out the y _i are in the sample |
| R ² | Model | Low | SSE/SST = 1 - (SSR / SST) | Increase | Ratio of the explained variation compared to the total variation; fraction of variance in y that is explained by the model |
| Adjusted R ² | Model | High | 1-(1-R²)(n-1) / (n-p-1) | Increase | Corrects for the fact that R ² increases w/ number of regressors |
| t (T statistic) | Variable | Low | $\hat{\beta}/(\sigma_{\hat{\beta}}/n)$ $=\hat{\beta}/se(\hat{\beta})$ | Increase | Test that variable coefficient should be 0 (i.e. variable is worthless) |
| P> t (p-Value) | Variable | High | P(observed t > actual t) | Decrease | Probability of the observed t-statistic is larger than the actual t statistic |
| DF Residuals (Residual degrees of freedom | Model | Low | п-р | Increase | |
| Model DoF | Model | Low | P-1 | Decrease | Number of parameters (not including intercept |
| Many, many others | | | | | This is not an exhaustive list. There are many additional metrics to look at |