# SageMaker Model Quality Report

This report contains model insights and model quality information for candidate **WeightedEnsemble_L2_FULL**. The candidate was generated by the AutoML job **automl-stoc-prediction**.

The **WeightedEnsemble_L2_FULL** candidate is a trained **regression** model whose objective is to **Minimize** the **"mean_squared_error"** quality metric.

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## Contents



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## Autopilot job details

| Title | Value |
|---|---|
| **Autopilot candidate name** | WeightedEnsemble_L2_FULL |
| **Autopilot job name** | automl-stoc-prediction |
| **Problem type** | regression |
| **Objective metric** | mean_squared_error |
| **Optimization direction** | Minimize |

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## Model quality report

Model quality information is generated by the Autopilot Local Model Insights. This report is for a **regression** problem. **106** rows were included in the evaluation dataset. The evaluation time occurred at **2023-10-12 06:20:11**.

### Metrics table

| Metric Name | Value | Standard Deviation |
|---|---|---|
| **mae** | 79.712835 | 0.000000 |
| **mse** | 14004.806139 | 0.000000 |
| **rmse** | 118.341904 | 0.000000 |
| **r2** | 0.995821 | 0.000000 |

**Note** The values of the performance metrics in this table may differ from the values reported by Autopilot. The differences tend to appear when training on smaller datasets. The values for the metrics in the table use all the training data once to estimate the performance of a model. Autopilot scores are calculated using k-fold cross-validation resampling method that train a machine learning algorithm on different subsets of the dataset. A score is then calculated for overall performance by averaging the resulting performance metrics for each trial.

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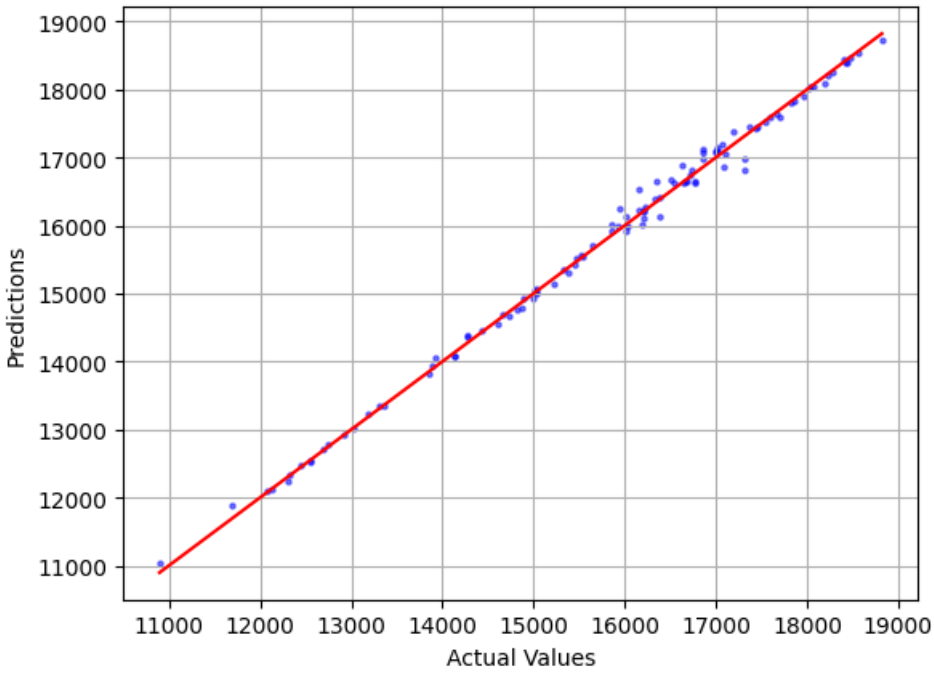
## Actual vs predicted plot

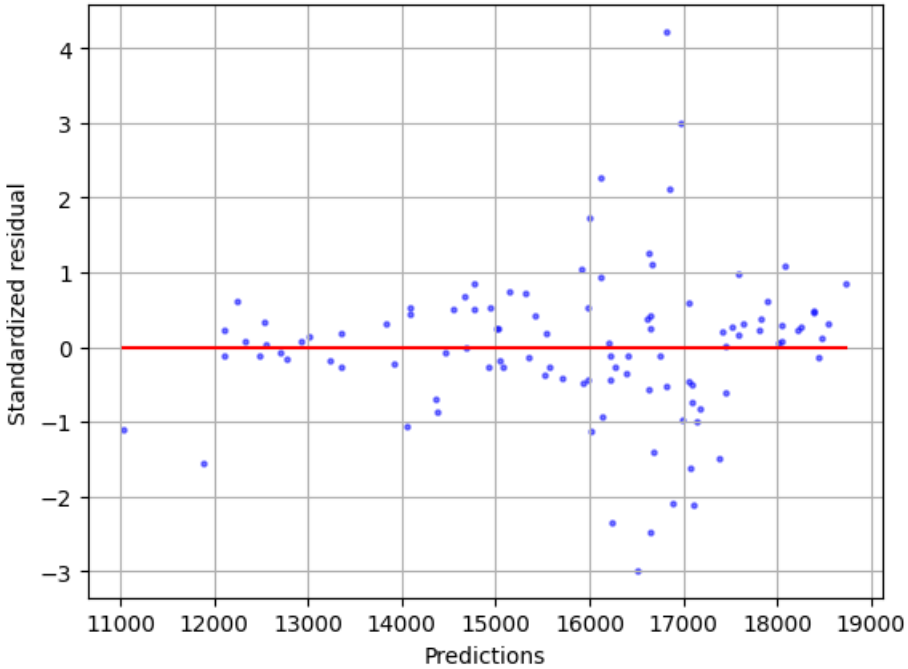
The **actual vs predicted** plot shows the difference between actual and predicted model values. In the graph below, the solid red line is a linear line of best fit. If the model were 100% accurate, each predicted point would equal its corresponding actual point and lie on this line of best fit. The distance away from the line of best fit is a visual indication

of model error. The larger the distance away from the line of best fit, the higher the model error.



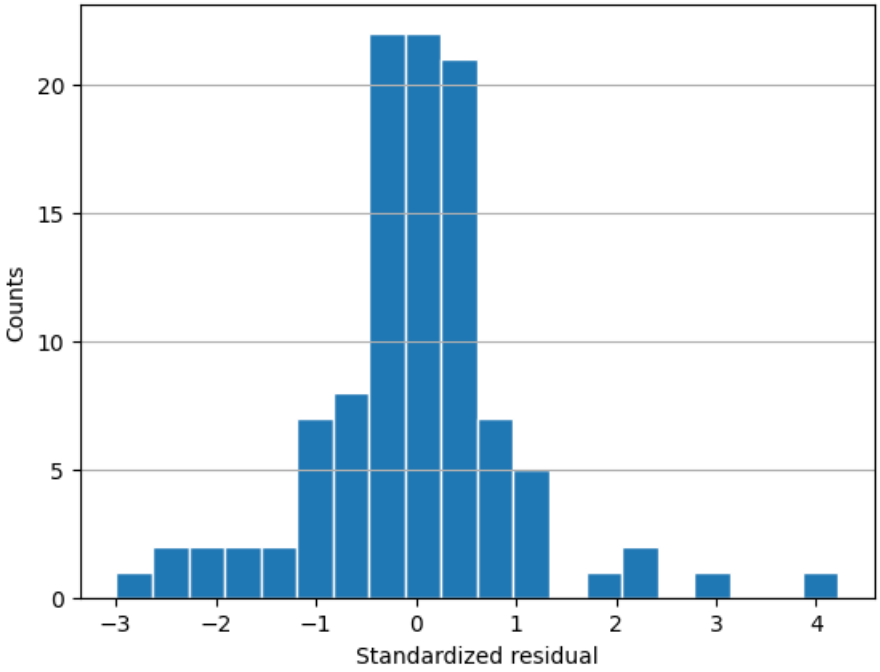

## Standardized residual plot

The **standardized residual plot** measures the strength of the difference between observed and expected values. A point shows a value larger than an absolute value of 3 is commonly regarded as an outlier.




## Residual histogram

The **residual histogram** shows the distribution of standardized residual values. When the histogram is distributed in a bell shape and centered at zero, it indicates that the model does not systematically over or under predict any particular range of target values.


Counts
20
15
10
5
0
−3
−2
−1
0
1
2
3
4
Standardized residual