**gRPC - Pull Request Analysis**

1. This analysis is on the data from gRPC’s master repository for all its closed pull requests which are either merged or rejected, containing a total of 13,775records
2. GitHub repository comparison:

Closed pull request’s count: 13,967

Closed pull request’s count which are merged: 11, 388

1. Data Description:

|  |  |
| --- | --- |
| pull\_request\_id | Is a unique id within a repository representing a pull request made |
| loc\_additions | Lines of code added in the pull request |
| loc\_deletions | Lines of code deleted in the pull request |
| num\_files\_changed | Number of files changed in the pull request |
| pr\_src\_state | Pull request’s state |
| pr\_src\_title | Pull request’s label/description |
| merged\_status | Closed PR’s detailed state – Merged/Rejected |

1. Outliers Analysis:

Number of files changed:

A screenshot of a social media post

Description automatically generated

Lines of code deleted:

A screenshot of a social media post

Description automatically generated

Lines of code added:

A screenshot of a social media post

Description automatically generated

1. Logistic regression models:

Descriptive statistics for entire data with outliers

Dataset count: 13,775

A picture containing battery

Description automatically generated

Logistic Regression Model for the entire data with outliers

A screenshot of a cell phone

Description automatically generated

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Descriptive statistics for normal range – data without any outliers

Dataset count: 10,503

A picture containing battery

Description automatically generated

Logistic Regression Model for normal range - data without any outliers

A screenshot of a cell phone

Description automatically generated

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Descriptive Statistics of All data excluding Num of files added Outliers

Dataset count: 11,968

A picture containing battery

Description automatically generated

Regression Logistic for All data excluding Num of files added Outliers

A screenshot of a cell phone

Description automatically generated

Descriptive statistics for All data excluding lines of code deleted Outliers

Dataset count: 11,610

A close up of a device

Description automatically generated

Logistic Regression Model for All data excluding lines of code deleted Outliers

A screenshot of a cell phone

Description automatically generated

Descriptive statistics for All data excluding lines of code added Outliers

Dataset count: 11,845

A picture containing battery

Description automatically generated

Logistic Regression Model for All data excluding lines of code added Outliers

A screenshot of a cell phone

Description automatically generated

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Descriptive statistics for data with number of files added Outliers only

Dataset count: 1,807

A close up of a device

Description automatically generated

Logistic Regression Model for data with number of files added Outliers only

A screenshot of a cell phone

Description automatically generated

Descriptive statistics for data with lines of code deleted Outliers only

Dataset count: 2,165

A picture containing battery

Description automatically generated

Logistic Regression Model for data with lines of code deleted Outliers only

A screenshot of a cell phone

Description automatically generated

Descriptive statistics for data with lines of code added Outliers only

Dataset count: 1,930

A close up of a battery

Description automatically generated

Logistic Regression Model for data with lines of code added Outliers only

A screenshot of a cell phone

Description automatically generated

All Outliers combined

Descriptive StatisticsA picture containing battery

Description automatically generated

Logistic Regression

A screenshot of a cell phone

Description automatically generated

**Complexity Analysis**:

Merged Status’s Top 10 **num\_files\_changed** by their pull request ids

Merged Status’s Top 10 **lines of code deleted** by their pull request ids

Merged Status’s Top 10 **lines of code added** by their pull request ids