函数定义：

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| --- | --- | --- | --- |
| Function name | input | output | Description |
| TimeSeriesAnalyzer | feature\_list: List<string>,  data\_path: string | TimeSeriesAnalyzer instance | 初始化 |
| get\_problem\_category | N/A | category:int | category 取值：“1” 或者 “2”  “1” 代表分类问题  “2” 代表回归问题 |
| get\_problem\_desc | N/A | problem\_desc: dict<string, string> | 返回对于研究目标的描述 |
| get\_feature\_desc | feature: string | feature\_desc: dict <string, string> | 返回对于某一feature的描述 |
| get\_features\_rel | N/A | features\_rel: Json\_string | 返回feature之间两两的相关度 |
| Get\_missing\_data | N/A | Missing\_data: Json\_string | 返回missing\_data信息的json string |
| get\_features\_target\_rel | N/A |  |  |
| get\_dimension\_info | N/A | Number\_of\_observations: int,  Number\_of\_features: int | 返回数据集的维度信息 |
| get\_feature\_info | N/A | 每个feature都是一个dict，包含以下：  Type： string,  missing\_count: int,  missing\_percent: float,  unique\_count: int,  unique\_percent: float. | 返回每个feature的基本信息：包含type, 缺失值的数量，缺失值所占的百分比，唯一值的数量，唯一值所占的百分比。 |

数据格式说明：

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| --- | --- | --- | --- |
| Name | Description | Sample | UI suggestion |
| Descriptive statistics summary | Dictionary<string, float>  一些统计信息 | "count":285.0,"mean":2.0,"std":0.0,"min":2.0,  "25%":2.0,"50%":2.0,"75%":2.0,"max":2.0 | 表格 |
| Histogram | Dictionary<string, int>  频次统计信息，数据内容依次为：“value”: “count”，即value出现的频次 | "155.78985":2,"86.2803":2,"81.66405":2, … | 直方图 |
| Skewness | Float  数值信息 | Skewness: 21.464408153098947 | 显示+文字释义 |
| Kurtosis | Float  数值信息 | Kurtosis: 471.4752844291517 | 显示+文字释义 |
| Rolling\_mean | List<dictionary<string, float>>  <key, value>对数组，其中key表示时间，value表示该时刻的统计数值 | "141":2.0,"142":2.0,"143":2.0,"144":2.0… | Rolling Statistic 合并显示：折线图 |
| Rolling\_std | "141":0.0,"142":0.0,"143":0.0,"144"… |
| Seasonal | List<float> | 0.2333, 0.2020, 0.1707, 0.1394, … | Decomposition into Trend, seasonality and residuals多图合并显示：折线图  (nan为占位符，不绘制) |
| Trend | nan, nan, nan, nan, nan, 534.0740740739999, 534.0740740739999, |
| Resid | nan, nan, nan, nan, nan, 1.136e-13, 1.1363e-13, |
| Observed | 0.2333, 0.2020, 0.1707, 0.1394, … |
| features\_rel | Json\_string  {  “feature\_1”: {  “feature\_1”: rel\_1,  …  “feature\_n”: rel\_n,  }, ...,  “feature\_n” {  }  } |  | 热力图 |
| Missing\_data | {  "Total":  {"MACHINE\_DATA":0,"MACHINE\_ID":0},  "Percent":  {"MACHINE\_DATA":0.0,"MACHINE\_ID":0.0}  } |  | 列表展示   |  |  |  | | --- | --- | --- | |  | Total | Percent | | MACHINE\_DATA | 0 | 0.0 | | MACHINE\_ID | 0 | 0.0 | |