

[Cloud AutoML Vision](#)

REST Resource: projects.locations.datasets.tableSpecs.colu...

Resource: ColumnSpec

A representation of a column in a relational table. When listing them, column specs are returned in the same order in which they were given on import . Used by: * Tables

JSON representation

```
{
  "name": string,
  "dataType": {
    object (DataType (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs.dataType))
  },
  "displayName": string,
  "dataStats": {
    object (DataStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs.dataStats))
  },
  "topCorrelatedColumns": [
    {
      object (CorrelatedColumn (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs.topCorrelatedColumns))
    }
  ],
  "etag": string
}
```

Fields

name	string
	Output only. The resource name of the column specs. Form: projects/{project_id}/locations/{locationId}/datasets/{datasetId}/tableSpecs/{tableSpecId}/columnSpecs/{columnSpecId}

Fields	
dataType	<p>object (DataType) (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataType))</p> <p>The data type of elements stored in the column.</p>
displayName	<p>string</p> <p>Output only. The name of the column to show in the interface. The name can be up to 100 characters long and can consist only of ASCII Latin letters A-Z and a-z, ASCII digits 0-9, underscores(_), and forward slashes(/), and must start with a letter or a digit.</p>
dataStats	<p>object (DataStats) (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataStats))</p> <p>Output only. Stats of the series of values in the column. This field may be stale, see the ancestor's Dataset.tables_dataset_metadata.stats_update_time field for the timestamp at which these stats were last updated.</p>
topCorrelatedColumns[]	<p>object (CorrelatedColumn) (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.CorrelatedColumn))</p> <p>Deprecated.</p>
etag	<p>string</p> <p>Used to perform consistent read-modify-write updates. If not set, a blind "overwrite" update happens.</p>

Data Type

Indicated the type of data that can be stored in a structured data entity (e.g. a table).

JSON representation

```
{
  "typeCode": enum (TypeCode (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.TypeCode),
  "nullable": boolean,

  // Union field details can be only one of the following:
  "listElementType": {
    object (DataType (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataType),
  },
  "structType": {
    object (StructType (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.StructType),
  },
  "timeFormat": string
  // End of list of possible types for union field details.
}
```

Fields

typeCode	<p>enum (<u>TypeCode</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.TypeCode))</p> <p>Required. The <u>TypeCode</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.TypeCode) for this type.</p>
nullable	<p>boolean</p> <p>If true, this DataType can also be NULL. In .CSV files NULL value is expressed as an empty string.</p>

Union field **details**. Details of DataType-s that need additional specification. **details** can be only one of the following:

Fields

listElementType	<p>object (<u>DataType</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataType))</p> <p>If <u>typeCode</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataType.FIELDS.type_code) == <u>ARRAY</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.TypeCode.ENUM_VALUES.ARRAY) , then listElementType is the type of the elements.</p>
structType	<p>object (<u>StructType</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.StructType))</p> <p>If <u>typeCode</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataType.FIELDS.type_code) == <u>STRUCT</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.TypeCode.ENUM_VALUES.STRUCT) , then structType provides type information for the struct's fields.</p>

Fields

timeFormat

string

If **typeCode**

(https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataType.FIELDS.type_code)

== **TIMESTAMP**

([https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpec.TypeCode.ENUM_VALUES.TIMESTAMP](https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.TypeCode.ENUM_VALUES.TIMESTAMP))

then **timeFormat** provides the format in which that time field is expressed. The timeFormat must either be one of: * **UNIX_SECONDS** * **UNIX_MILLISECONDS** * **UNIX_MICROSECONDS** * **UNIX_NANOSECONDS** (for respectively number of seconds, milliseconds, microseconds and nanoseconds since start of the Unix epoch); or be written in **strftime** syntax. If timeFormat is not set, then the default format as described on the typeCode is used.

StructType

StructType defines the DataTypes of a **STRUCT**

(https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.TypeCode.ENUM_VALUES.STRUCT)

type.

JSON representation

```
{
  "fields": {
    string: {
      object(DataType (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects
    ),
    ...
  }
}
```

Fields

Fields

fields	<p>map (key: string, value: object (<u>Data Type</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataType))</p> <p>Unordered map of struct field names to their data types. Fields cannot be added or removed via Update. Their names and data types are still mutable.</p> <p>An object containing a list of "key": value pairs. Example: { "name": "wrench", "mass": "1.3kg", "count": "3" }.</p>
---------------	---

TypeCode

TypeCode is used as a part of **Data Type**

(<https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataType>)

Enums

TYPE_CODE_UNSPECIFIED	Not specified. Should not be used.
FLOAT64	Encoded as number , or the strings "NaN", "Infinity", or "-Infinity".
TIMESTAMP	Must be between 0AD and 9999AD. Encoded as string according to <u>timeFormat</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataType.FIELDS.time_format), or, if that format is not set, then in RFC 3339 date-time format, where time-offset = "Z" (e.g. 1985-04-12T23:20:50.52Z).
STRING	Encoded as string .

Enums	
ARRAY	Encoded as list , where the list elements are represented according to <u>listElementType</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataType.FIELDS.list_element_type) .
STRUCT	Encoded as struct , where field values are represented according to <u>structType</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataType.FIELDS.struct_type) .
CATEGORY	Values of this type are not further understood by AutoML, e.g. AutoML is unable to tell the order of values (as it could with FLOAT64), or is unable to say if one value contains another (as it could with STRING). Encoded as string (bytes should be base64-encoded, as described in RFC 4648, section 4).

DataStats

The data statistics of a series of values that share the same DataType.

JSON representation

JSON representation

```
{
  "distinctValueCount": string,
  "nullValueCount": string,
  "validValueCount": string,

  // Union field stats can be only one of the following:
  "float64Stats": {
    object (Float64Stats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/proje
  },
  "stringStats": {
    object (StringStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projec
  },
  "timestampStats": {
    object (TimestampStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/pr
  },
  "arrayStats": {
    object (ArrayStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects
  },
  "structStats": {
    object (StructStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projec
  },
  "categoryStats": {
    object (CategoryStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/proj
  }
  // End of list of possible types for union field stats.
}
```

Fields

distinctValueCount	string (<u>int64</u> (https://developers.google.com/discovery/v1/type-format) format)	The number of distinct values.
nullValueCount	string (<u>int64</u> (https://developers.google.com/discovery/v1/type-format) format)	The number of values that are null.
validValueCount	string (<u>int64</u> (https://developers.google.com/discovery/v1/type-format) format)	The number of values that are valid.

Fields

Union field **stats**. The data statistics specific to a DataType. **stats** can be only one of the following:

float64Stats	<p>object (<u>Float64Stats</u> https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.Float64Stats)</p> <p>The statistics for FLOAT64 DataType.</p>
stringStats	<p>object (<u>StringStats</u> https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.StringStats)</p> <p>The statistics for STRING DataType.</p>
timestampStats	<p>object (<u>TimestampStats</u> https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.TimestampStats)</p> <p>The statistics for TIMESTAMP DataType.</p>
arrayStats	<p>object (<u>ArrayStats</u> https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.ArrayStats)</p> <p>The statistics for ARRAY DataType.</p>
structStats	<p>object (<u>StructStats</u> https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.StructStats)</p> <p>The statistics for STRUCT DataType.</p>

Fields

categoryStats	object (CategoryStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.CategoryStats)) The statistics for CATEGORY DataType.
----------------------	--

Float64Stats

The data statistics of a series of FLOAT64 values.

JSON representation

```
{
  "mean": number,
  "standardDeviation": number,
  "quantiles": [
    number
  ],
  "histogramBuckets": [
    {
      object (HistogramBucket (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.HistogramBucket))
    }
  ]
}
```

Fields

mean	number The mean of the series.
standardDeviation	number The standard deviation of the series.

Fields

quantiles[]	<p>number</p> <p>Ordered from 0 to k k-quantile values of the data series of n values. The value at index i is, approximately, the $i \cdot n / k$-th smallest value in the series; for $i = 0$ and $i = k$ these are, respectively, the min and max values.</p>
histogramBuckets[]	<p>object (HistogramBucket (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.HistogramBucket))</p> <p>Histogram buckets of the data series. Sorted by the min value of the bucket, ascendingly, and the number of the buckets is dynamically generated. The buckets are non-overlapping and completely cover whole FLOAT64 range with min of first bucket being "-Infinity", and max of the last one being "Infinity".</p>

HistogramBucket

A bucket of a histogram.

JSON representation

```
{
  "min": number,
  "max": number,
  "count": string
}
```

Fields

min	<p>number</p> <p>The minimum value of the bucket, inclusive.</p>
max	<p>number</p> <p>The maximum value of the bucket, exclusive unless max = "Infinity", in which case it's inclusive.</p>

Fields

count	string (<u>int64</u> (https://developers.google.com/discovery/v1/type-format) format) The number of data values that are in the bucket, i.e. are between min and max values.
--------------	--

StringStats

The data statistics of a series of STRING values.

JSON representation

```
{
  "topUnigramStats": [
    {
      object (UnigramStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.UnigramStats))
    }
  ]
}
```

Fields

topUnigramStats[]	object (<u>UnigramStats</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.UnigramStats)) The statistics of the top 20 unigrams, ordered by <u>count</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.UnigramStats.FIELDS.count)
--------------------------	---

UnigramStats

The statistics of a unigram.

JSON representation

```
{
  "value": string,
  "count": string
}
```

Fields

value	string The unigram.
count	string (<u>int64</u> (https://developers.google.com/discovery/v1/type-format) format) The number of occurrences of this unigram in the series.

TimestampStats

The data statistics of a series of **TIMESTAMP** values.

JSON representation

```
{
  "granularStats": {
    string: {
      object(GranularStats)
    },
    ...
  }
}
```

Fields

Fields

granularStats	<p>map (key: string, value: object (GranularStats))</p> <p>The string key is the pre-defined granularity. Currently supported: hour_of_day, day_of_week, month_of_year. Granularities finer than the granularity of timestamp data are not populated (e.g. if timestamps are at day granularity, then hour_of_day is not populated).</p> <p>An object containing a list of "key": value pairs. Example: { "name": "wrench", "mass": "1.3kg", "count": "3" }.</p>
----------------------	---

ArrayStats

The data statistics of a series of ARRAY values.

JSON representation

```
{
  "memberStats": {
    object (DataStats)
  }
}
```

Fields

memberStats	<p>object (DataStats)</p> <p>Stats of all the values of all arrays, as if they were a single long series of data. The type depends on the element type of the array.</p>
--------------------	--

StructStats

The data statistics of a series of STRUCT values.

JSON representation

```
{
  "fieldStats": {
    string: {
      object(DataStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataStats))
    },
    ...
  }
}
```

Fields

fieldStats	<p>map (key: string, value: object (DataStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.DataStats)))</p> <p>Map from a field name of the struct to data stats aggregated over series of all data in that field across all the structs.</p> <p>An object containing a list of "key": value pairs. Example: { "name": "wrench", "mass": "1.3kg", "count": "3" }.</p>
-------------------	---

CategoryStats

The data statistics of a series of CATEGORY values.

JSON representation

```
{
  "topCategoryStats": [
    {
      object (SingleCategoryStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.CategoryStats))
    }
  ]
}
```

Fields

Fields

topCategoryStats[]	<p>object (<u>SingleCategoryStats</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.SingleCategoryStats))</p> <p>)</p> <p>The statistics of the top 20 CATEGORY values, ordered by</p> <p><u>count</u> (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.SingleCategoryStats.FIELDS.count)</p> <p>.</p>
---------------------------	---

SingleCategoryStats

The statistics of a single CATEGORY value.

JSON representation

```
{
  "value": string,
  "count": string
}
```

Fields

value	<p>string</p> <p>The CATEGORY value.</p>
count	<p>string (<u>int64</u> (https://developers.google.com/discovery/v1/type-format) format)</p> <p>The number of occurrences of this value in the series.</p>

CorrelatedColumn

Identifies the table's column, and its correlation with the column this ColumnSpec describes.

JSON representation

```
{
  "columnSpecId": string,
  "correlationStats": {
    object (CorrelationStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/
  )
}
```

Fields

columnSpecId	string The columnSpecId of the correlated column, which belongs to the same table as the in-context column.
correlationStats	object (CorrelationStats (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs#ColumnSpec.CorrelationStats)) Correlation between this and the in-context column.

CorrelationStats

A correlation statistics between two series of DataType values. The series may have differing DataTypes, but within a single series the DataType must be the same.

JSON representation

```
{
  "cramersV": number
}
```

Fields

cramersV	number The correlation value using the Cramer's V measure.
-----------------	--

Methods

get (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs/get)	Gets a column spec.
list (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs/list)	Lists column specs in a table spec.
patch (https://cloud.google.com/vision/automl/docs/reference/rest/v1beta1/projects.locations.datasets.tableSpecs.columnSpecs/patch)	Updates a column spec.

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