

tf.contrib.linear_optimizer.SparseFeatureColumn

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Class `SparseFeatureColumn`

Defined in [tensorflow/contrib/linear_optimizer/python/ops/sparse_feature_column.py](#).

Represents a sparse feature column.

Contains three tensors representing a sparse feature column, they are example indices (`int64`), feature indices (`int64`), and feature values (`float`). Feature weights are optional, and are treated as `1.0f` if missing.

For example, consider a batch of 4 examples, which contains the following features in a particular `SparseFeatureColumn`:

- Example 0: feature 5, value 1
- Example 1: feature 6, value 1 and feature 10, value 0.5
- Example 2: no features
- Example 3: two copies of feature 2, value 1

This `SparseFeatureColumn` will be represented as follows:

```
<0, 5, 1>
<1, 6, 1>
<1, 10, 0.5>
<3, 2, 1>
<3, 2, 1>
```

For a batch of 2 examples below:

- Example 0: feature 5
- Example 1: feature 6

is represented by `SparseFeatureColumn` as:

```
<0, 5, 1>
<1, 6, 1>
```

Properties

`example_indices`

The example indices represented as a dense tensor.

Returns:

A 1-D Tensor of int64 with shape `[N]`.

feature_indices

The feature indices represented as a dense tensor.

Returns:

A 1-D Tensor of int64 with shape `[N]`.

feature_values

The feature values represented as a dense tensor.

Returns:

May return None, or a 1-D Tensor of float32 with shape `[N]`.

Methods

__init__

```
__init__(
    example_indices,
    feature_indices,
    feature_values
)
```

Creates a `SparseFeatureColumn` representation.

Args:

- `example_indices`: A 1-D int64 tensor of shape `[N]`. Also, accepts python lists, or numpy arrays.
- `feature_indices`: A 1-D int64 tensor of shape `[N]`. Also, accepts python lists, or numpy arrays.
- `feature_values`: An optional 1-D tensor float tensor of shape `[N]`. Also, accepts python lists, or numpy arrays.

Returns:

A `SparseFeatureColumn`

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