

## tf.contrib.factorization.GmmAlgorithm

## Contents

Class GmmAlgorithm

## Methods

`__init__``alphas`Class **GmmAlgorithm**Defined in [tensorflow/contrib/factorization/python/ops/gmm\\_ops.py](#).

Tensorflow Gaussian mixture model clustering class.

## Methods

**`__init__`**

```
__init__(
    data,
    num_classes,
    initial_means=None,
    params='wmc',
    covariance_type=FULL_COVARIANCE,
    random_seed=0
)
```

Constructor.

## Args:

- `data` : a list of Tensors with data, each row is a new example.
- `num_classes` : number of clusters.
- `initial_means` : a Tensor with a matrix of means. If None, means are computed by sampling randomly.
- `params` : Controls which parameters are updated in the training process. Can contain any combination of "w" for weights, "m" for means, and "c" for covariances.
- `covariance_type` : one of "full", "diag".
- `random_seed` : Seed for PRNG used to initialize seeds.

## Raises:

Exception if covariance type is unknown.

## **alphas**

```
alphas()
```

## **assignments**

```
assignments()
```

Returns a list of Tensors with the matrix of assignments per shard.

## **clusters**

```
clusters()
```

Returns the clusters with dimensions num\_classes X 1 X num\_dimensions.

## **covariances**

```
covariances()
```

Returns the covariances matrices.

## **init\_ops**

```
init_ops()
```

Returns the initialization operation.

## **is\_initialized**

```
is_initialized()
```

Returns a boolean operation for initialized variables.

## **scores**

```
scores()
```

Returns the distances to each class.

Returns:

A tuple with two Tensors. The first contains the distance to each class. The second contains the distance to the assigned class.

## **training\_ops**

```
training_ops()
```

Returns the training operation.

## Class Members

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**CLUSTERS\_COVS\_VARIABLE**

**CLUSTERS\_VARIABLE**

**CLUSTERS\_WEIGHT**

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