tf.contrib.tpu.TPUEstimatorSpec

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Class `TPUEstimatorSpec`

Defined in `tensorflow/contrib/tpu/python/tpu/tpu_estimator.py`.

Ops and objects returned from a `model_fn` and passed to `TPUEstimator`.

See `EstimatorSpec` for `mode`, 'predictions, 'loss', 'train_op', and 'export_outputs`.

TPU evaluation expects a slightly different signature from the ${tf.estimator.Estimator}. While `EstimatorSpec.eval_metric_ops` expects a dict, `TPUEstimatorSpec.eval_metrics` is a tuple of `metric_fn` and `tensors`. The `tensors` could be a list of `Tensor`s or dict of names to `Tensor`s. The `tensors` usually specify the model logits, which are transferred back from TPU system to CPU host. All tensors must have be batch-major, i.e., the batch size is the first dimension. Once all tensors are available at CPU host from all shards, they are concatenated (on CPU) and passed as positional arguments to the `metric_fn` if `tensors` is list or keyword arguments if `tensors` is dict. `metric_fn` takes the `tensors` and returns a dict from metric string name to the result of calling a metric function, namely a `(metric_tensor, update_op)` tuple.

See `TPUEstimator` for MNIST example how to specify the `eval_metrics`.

Properties

`eval_metrics`

Alias for field number 4

`export_outputs`

Alias for field number 5

`loss`

Alias for field number 2

`mode`

Alias for field number 0

predictions

Alias for field number 1

train_op

Alias for field number 3

Methods

__new__

```
@staticmethod
__new__(
    cls,
    mode,
    predictions=None,
    loss=None,
    train_op=None,
    eval_metrics=None,
    export_outputs=None
)
```

Creates a validated `TPUEstimatorSpec` instance.

as_estimator_spec

```
as_estimator_spec()
```

Creates an equivalent `EstimatorSpec` used by CPU train/eval.

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