

tf.contrib.learn.multi_class_head

```
multi_class_head(  
    n_classes,  
    label_name=None,  
    weight_column_name=None,  
    enable_centered_bias=False,  
    head_name=None,  
    thresholds=None,  
    metric_class_ids=None,  
    loss_fn=None,  
    label_keys=None  
)
```

Defined in [tensorflow/contrib/learn/python/learn/estimators/head.py](#).

Creates a **Head** for multi class single label classification.

The Head uses softmax cross entropy loss.

This head expects to be fed integer labels specifying the class index. But if **label_keys** is specified, then labels must be strings from this vocabulary, and the predicted classes will be strings from the same vocabulary.

Args:

- **n_classes**: Integer, number of classes, must be ≥ 2
- **label_name**: String, name of the key in label dict. Can be null if label is a tensor (single headed models).
- **weight_column_name**: A string defining feature column name representing weights. It is used to down weight or boost examples during training. It will be multiplied by the loss of the example.
- **enable_centered_bias**: A bool. If True, estimator will learn a centered bias variable for each class. Rest of the model structure learns the residual after centered bias.
- **head_name**: name of the head. If provided, predictions, summary and metrics keys will be suffixed by **"/" + head_name** and the default variable scope will be **head_name**.
- **thresholds**: thresholds for eval metrics, defaults to `[.5]`
- **metric_class_ids**: List of class IDs for which we should report per-class metrics. Must all be in the range `[0, n_classes)`. Invalid if **n_classes** is 2.
- **loss_fn**: Optional function that takes (**labels**, **logits**, **weights**) as parameter and returns a weighted scalar loss. **weights** should be optional. See **tf.losses**
- **label_keys**: Optional list of strings with size `[n_classes]` defining the label vocabulary. Only supported for **n_classes** > 2 .

Returns:

An instance of **Head** for multi class classification.

Raises:

- `ValueError`: if `n_classes` is `< 2`.
- `ValueError`: If `metric_class_ids` is provided when `n_classes` is 2.
- `ValueError`: If `len(label_keys) != n_classes`.

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