

tf.contrib.bayesflow.csiszar_divergence.kl_reverse

```
kl_reverse(
    logu,
    self_normalized=False,
    name=None
)
```

Defined in [tensorflow/contrib/bayesflow/python/ops/csiszar_divergence_impl.py](#).

The reverse Kullback-Leibler Csiszar-function in log-space.

A Csiszar-function is a member of,

$$F = \{ f: \mathbb{R}_+ \rightarrow \mathbb{R} : f \text{ convex} \}.$$

When `self_normalized = True`, the KL-reverse Csiszar-function is:

$$f(u) = -\log(u) + (u - 1)$$

When `self_normalized = False` the $(u - 1)$ term is omitted.

Observe that as an f-Divergence, this Csiszar-function implies:

$$D_f[p, q] = KL[q, p]$$

The KL is "reverse" because in maximum likelihood we think of minimizing q as in $KL[p, q]$.

Warning: when `self_normalized = True` this function makes non-log-space calculations and may therefore be numerically unstable for $|\log u| \gg 0$.

Args:

- `logu`: `float`-like `Tensor` representing $\log(u)$ from above.
- `self_normalized`: Python `bool` indicating whether $f'(u=1)=0$. When $f'(u=1)=0$ the implied Csiszar f-Divergence remains non-negative even when p, q are unnormalized measures.
- `name`: Python `str` name prefixed to Ops created by this function.

Returns:

- `kl_reverse_of_u`: `float`-like `Tensor` of the Csiszar-function evaluated at $u = \exp(\log u)$.

Raises:

- `TypeError`: if `self_normalized` is `None` or a `Tensor`.

Stay Connected

- Blog
- GitHub
- Twitter

Support

- Issue Tracker
- Release Notes
- Stack Overflow

English

Terms | Privacy