

nn.softmax_zero

...

```
Copy fnsoftmax_zero(tensor:@Tensor, axis:usize)->Tensor;
```

...

Applies the Softmax zero function to an n-dimensional input Tensor rescaling them so that the elements of the n-dimensional output Tensor lie in the range [0,1] and sum to 1 while keeping the zero elements to zero.

The softmax zero on the set $\mathbf{x} = (x_1, \dots, x_n)$ is given by :

$$\text{softmax_zero}(x_i) = \begin{cases} 0 & \text{if } x_i = 0 \\ \frac{e^{x_i}}{\sum_{x \in S} e^x} & \text{otherwise} \end{cases}$$
 where S is a subset of \mathbf{x} given by

$$S = \{ (x_1, \dots, x_k) \mid 1 \leq k \leq n, x_j \neq 0 \text{ for } 1 \leq j \leq k \}$$

Args

- tensor
- (@Tensor
-) - The input tensor.
- axis
- (usize
-) - The axis along which to compute the softmax zero.
-

Returns

A Tensor of fixed point numbers with the same shape than the input Tensor.

Type Constraints

Constrain input and output types to fixed point tensors.

Examples

...

```
Copy usecore::array::{ArrayTrait,SpanTrait};
```

```
useorion::operators::tensor::{TensorTrait,Tensor,FP8x23Tensor}; useorion::operators::nn::{NNTrait,FP8x23NN};  
useorion::numbers::{FP8x23,FixedTrait};
```

```
usecore::debug::PrintTrait;
```

```
fnsoftmax_zero_example()->Tensor {  
    lettensor=TensorTrait::new( shape:array![2,2].span(), data:array![  
        FixedTrait::new(0,false), FixedTrait::new(8388608,false), FixedTrait::new(16777216,false), FixedTrait::new(25165824,false),  
    ].span(), );
```

```
    returnNNTrait::softmax_zero(@tensor,1); }
```

```
        [[0,0x800000],[2256043,6132564]] // The fixed point representation of // [[0, 1],[0.2689,  
        0.7311]]
```

...

[Previous nn.softmax](#) [Next nn.logsoftmax](#)

Last updated2 months ago