

nn.gemm

...

Copy fngemm(A:Tensor, B:Tensor, C:Option>, alpha:Option, beta:Option, transA:bool, transB:bool)->Tensor;

...

Performs General Matrix multiplication:https://en.wikipedia.org/wiki/Basic_Linear_Algebra_Subprograms#Level_3

- A' = transpose(A) if transA else A
- B' = transpose(B) if transB else B
-

Compute $Y = \alpha * A' * B' + \beta * C$, where input tensor A has shape (M, K) or (K, M), input tensor B has shape (K, N) or (N, K), input tensor C is broadcastable to shape (M, N), and output tensor Y has shape (M, N). A will be transposed before doing the computation if `transA` is true, same for B and `transB`.

Args

- A
- (Tensor
-) - Input tensor A. The shape of A
- should be (M, K) if `transA`
- is false
- , or (K, M) if `transA`
- is true
- .
- B
- (Tensor
-) - Input tensor B. The shape of B
- should be (K, N) if `transB`
- is false
- , or (N, K) if `transB`
- is true
- .
- C
- (Option>
-) - Optional input tensor C. The shape of C should be unidirectional broadcastable to (M, N).
- alpha
- (Option
-) - Optional scalar multiplier for the product of input tensors A * B
- .
- beta
- (Option
-) - Optional scalar multiplier for input tensor C
- .
- transA
- (bool
-) - Whether A
- should be transposed.
- transB
- (bool
-) - Whether B
- should be transposed.
-

Returns

A Tensor of shape (M, N).

Examples

...

Copy modinput_0; modinput_1; modinput_2;

use Orion::operators::nn::NNTrait; use Orion::numbers::FixedTrait; use Orion::operators::nn::FP16x16NN;
use Orion::operators::tensor::FP16x16TensorPartialEq;

```
fngemm_all_attributes_example()->Tensor { letinput_0=input_0::input_0();// shape [4;3] letinput_1=input_1::input_1();//  
shape [5;4] letinput_2=input_2::input_2();// shape [1;5]  
  
lety=NNTrait::gemm( input_0, input_1, Option::Some(input_2), Option::Some(FixedTrait::new(16384,false)),// 0.25  
Option::Some(FixedTrait::new(22938,false)),// 0.35 true, true );  
  
returny; }  
  
        tensor of shape [3;5]  
...
```

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