

tf.sparse_matmul

```
sparse_matmul(  
    a,  
    b,  
    transpose_a=False,  
    transpose_b=False,  
    a_is_sparse=False,  
    b_is_sparse=False,  
    name=None  
)
```

Defined in `tensorflow/python/ops/gen_math_ops.py`.

Multiply matrix "a" by matrix "b".

The inputs must be two-dimensional matrices and the inner dimension of "a" must match the outer dimension of "b". This op is optimized for the case where at least one of "a" or "b" is sparse. The breakeven for using this versus a dense matrix multiply on one platform was 30% zero values in the sparse matrix.

The gradient computation of this operation will only take advantage of sparsity in the input gradient when that gradient comes from a Relu.

Args:

- `a`: A **Tensor**. Must be one of the following types: `float32`, `bfloat16`.
- `b`: A **Tensor**. Must be one of the following types: `float32`, `bfloat16`.
- `transpose_a`: An optional **bool**. Defaults to `False`.
- `transpose_b`: An optional **bool**. Defaults to `False`.
- `a_is_sparse`: An optional **bool**. Defaults to `False`.
- `b_is_sparse`: An optional **bool**. Defaults to `False`.
- `name`: A name for the operation (optional).

Returns:

A **Tensor** of type `float32`.

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