

# Neural Network

This module contains primitive Neural Net (NN) operations.

...

Copy use orion::operators::nn;

...

Data types

Orion supports currently these NN types.

Data type dtype 32-bit integer (signed) Tensor 8-bit integer (signed) Tensor 32-bit integer (unsigned) Tensor Fixed point (signed) Tensor

NNTrait

NNTrait contains the primitive functions to build a Neural Network.

function description [nn.relu](#) Applies the rectified linear unit function element-wise. [nn.leaky\\_relu](#) Applies the leaky rectified linear unit (Leaky ReLU) activation function element-wise. [nn.sigmoid](#) Applies the Sigmoid function to an n-dimensional input tensor. [nn.softmax](#) Computes softmax activations. [nn.softmax\\_zero](#) Computes softmax zero. [nn.logsoftmax](#) Applies the natural log to Softmax function to an n-dimensional input Tensor. [nn.softsign](#) Applies the Softsign function element-wise. [nn.softplus](#) Applies the Softplus function element-wise. [nn.linear](#) Performs a linear transformation of the input tensor using the provided weights and bias. [nn.hard\\_sigmoid](#) Applies the Hard Sigmoid function to an n-dimensional input tensor. [nn.thresholded\\_relu](#) Performs the thresholded relu activation function element-wise. [nn.gemm](#) Performs General Matrix multiplication.

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