

## TOOLS



## NODES

AveragePool

Batch Normalization

Convolutional

Dropout

Flatten

Fully Connected

LRN

MaxPool

ReLU

Reshape

Sigmoid

SoftMax

Unsqueeze

## PROPERTIES

Generic SMT

Polyhedral

Local robustness

## Fully Connected

in\_features <3>  
out\_features <20>  
weight <20x3>  
bias <20>  
has\_bias <True>

## ReLU

## Fully Connected

in\_features <20>  
out\_features <10>  
weight <10x20>  
bias <10>  
has\_bias <True>

## ReLU

## Fully Connected

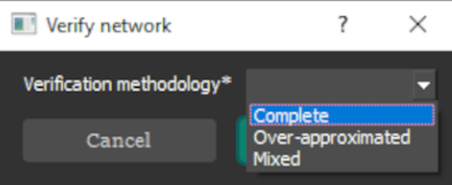
in\_features <10>  
out\_features <1>  
weight <1x10>  
bias <1>  
has\_bias <True>

## Generic SMT

## PRE

## Formula

```
(assert (<= X_0 50.0))  
(assert (<= 0.0 X_0))  
(assert (<= X_1 50.0))  
(assert (<= -50.0 X_1))  
(assert (<= X_2 150.0))  
(assert (<= 0.0 X_2))
```



## Generic SMT

## POST

## Formula

```
(assert (<= FC5_0 1.0))  
(assert (<= -3.0 FC5_0))
```

## Parameters

## FC1:Fully Connected

Matrix product that computes  $\alpha * A' * B' + \text{bias}$

## PARAMETERS

IN\_FEATURES int  
OUT\_FEATURES int  
WEIGHT Tensor  
BIAS Tensor  
HAS\_BIAS boolean true

## INPUT

A Tensor

## OUTPUT

OUTPUT Tensor