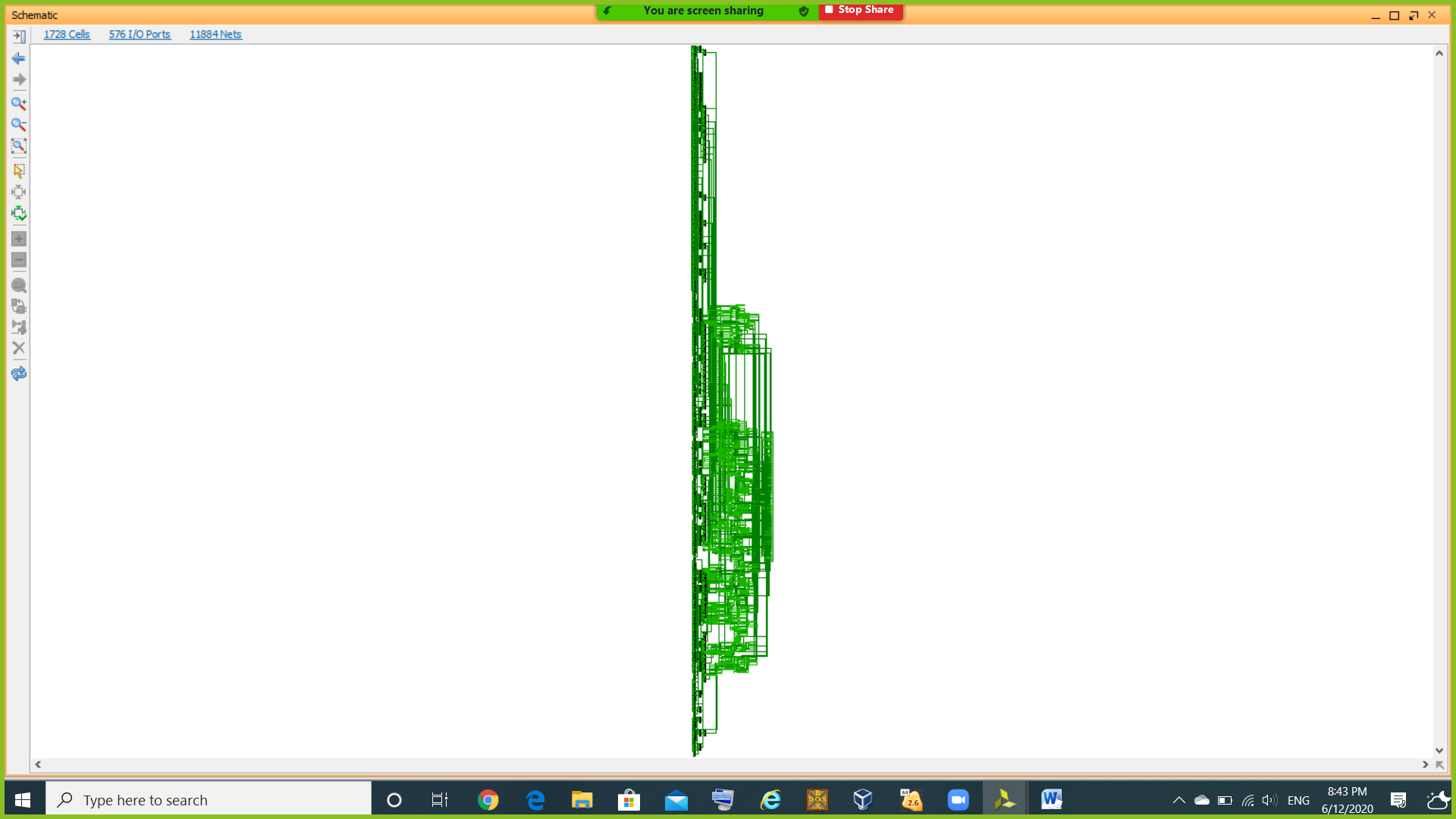
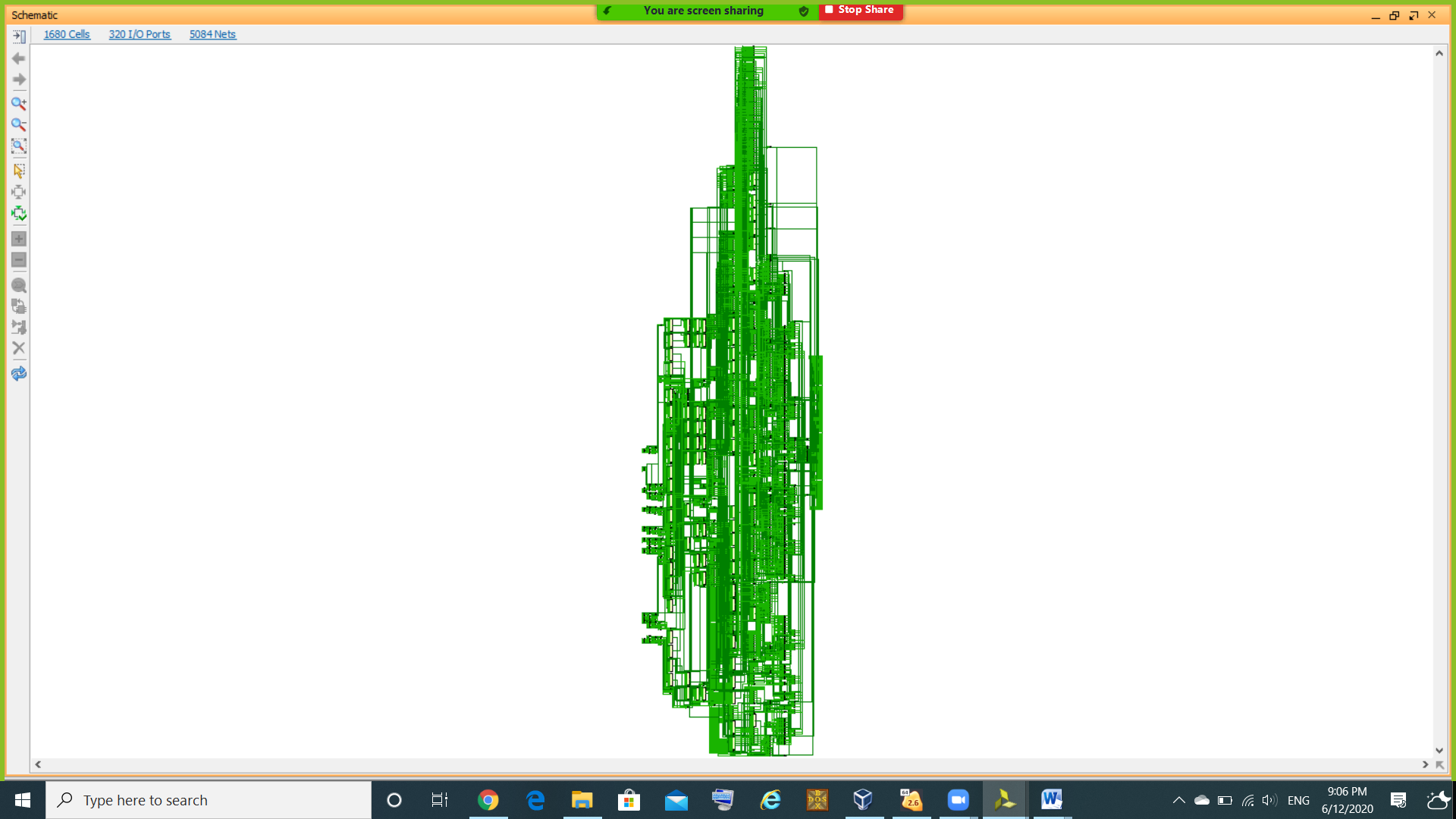
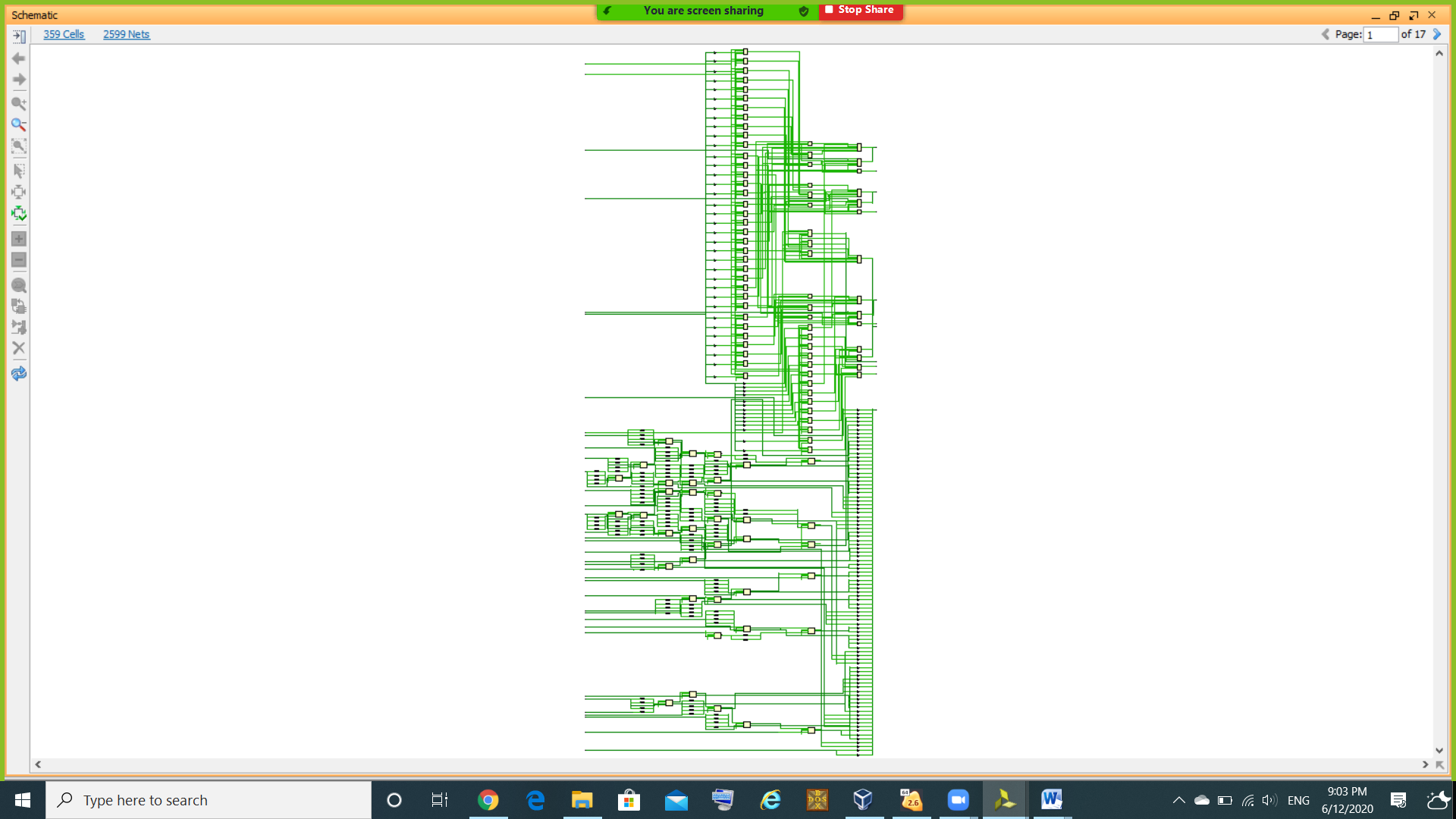
**Tanh activation function**



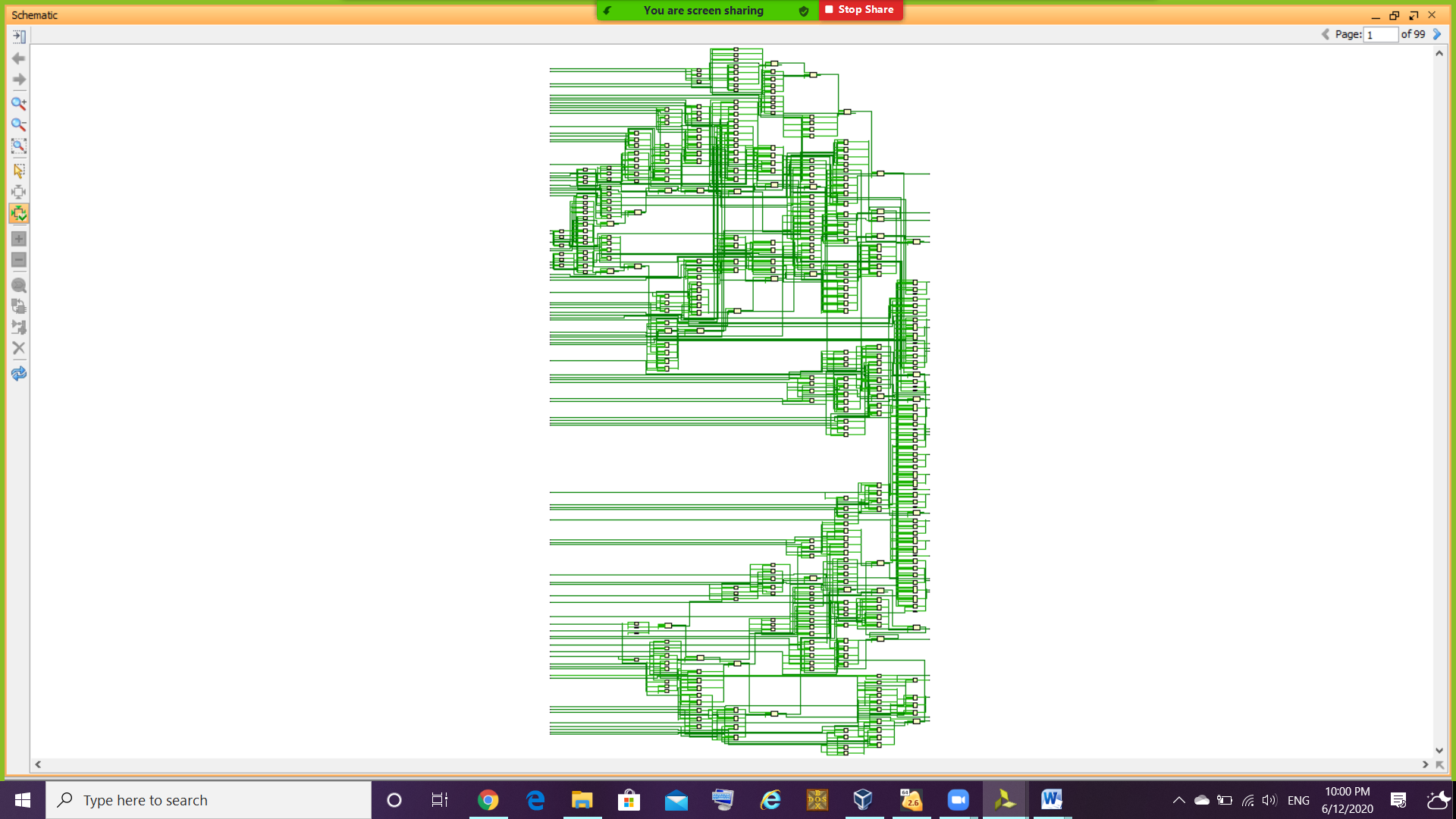
**Softmax activation function**



**Average pool layer**



**Parallel convolution with many filters**



**CNN\_Main (Log)**

\*\*\* Running vivado

with args -log CNN\_Main.vds -m64 -mode batch -messageDb vivado.pb -notrace -source CNN\_Main.tcl

WARNING: Default location for XILINX\_VIVADO\_HLS not found:

\*\*\*\*\*\* Vivado v2015.2 (64-bit)

\*\*\*\* SW Build 1266856 on Fri Jun 26 16:35:25 MDT 2015

\*\*\*\* IP Build 1264090 on Wed Jun 24 14:22:01 MDT 2015

\*\* Copyright 1986-2015 Xilinx, Inc. All Rights Reserved.

source CNN\_Main.tcl -notrace

WARNING: [Board 49-26] cannot add Board Part xilinx.com:kc705:part0:1.2 available at C:/Xilinx/Vivado/2015.2/data/boards/board\_files/kc705/1.2/board.xml as part xc7k325tffg900-2 specified in board\_part file is either invalid or not available

Command: synth\_design -top CNN\_Main -part xc7a200tfbg676-2

Starting synth\_design

Attempting to get a license for feature 'Synthesis' and/or device 'xc7a200t'

INFO: [Common 17-349] Got license for feature 'Synthesis' and/or device 'xc7a200t'

---------------------------------------------------------------------------------

Starting Synthesize : Time (s): cpu = 00:00:11 ; elapsed = 00:00:18 . Memory (MB): peak = 248.258 ; gain = 75.590

---------------------------------------------------------------------------------

INFO: [Synth 8-638] synthesizing module 'CNN\_Main' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/CNN\_Main.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 32 - type: integer

Parameter FILTER\_COLs bound to: 5 - type: integer

Parameter NO\_OF\_FILTERs\_ONE bound to: 3 - type: integer

Parameter OUTPUT\_COLs\_ONE bound to: 28 - type: integer

Parameter OUTPUT\_COLs\_TWO bound to: 14 - type: integer

Parameter NO\_OF\_FILTERs\_TWO bound to: 3 - type: integer

Parameter OUTPUT\_COLs\_THREE bound to: 10 - type: integer

Parameter OUTPUT\_COLs\_FOUR bound to: 5 - type: integer

Parameter NO\_OF\_FILTERs\_THREE bound to: 3 - type: integer

Parameter OUTPUT\_COLs\_FIVE bound to: 1 - type: integer

Parameter OUTPUT\_COLs\_SIX bound to: 3 - type: integer

Parameter OUTPUT\_COLs\_SEVEN bound to: 1 - type: integer

Parameter WEIGHTS\_FILE1 bound to: C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/Weight Files/weights1.txt - type: string

Parameter WEIGHTS\_FILE2 bound to: C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/Weight Files/weights2.txt - type: string

INFO: [Synth 8-638] synthesizing module 'Parallel\_Convolution\_with\_Many\_Filters' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Many\_Filters.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 32 - type: integer

Parameter FILTER\_COLs bound to: 5 - type: integer

Parameter NO\_OF\_FILTERs bound to: 3 - type: integer

Parameter OUTPUT\_COLs bound to: 28 - type: integer

Parameter NO\_OF\_IMAGES bound to: 1 - type: integer

INFO: [Synth 8-638] synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 32 - type: integer

Parameter FILTER\_COLs bound to: 5 - type: integer

Parameter OUTPUT\_COLs bound to: 28 - type: integer

INFO: [Synth 8-638] synthesizing module 'Convolutional\_Basic\_Processing\_Unit' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Convolutional\_Basic\_Processing\_Unit.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter FILTER\_COLs bound to: 5 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Convolutional\_Basic\_Processing\_Unit' (1#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Convolutional\_Basic\_Processing\_Unit.v:2]

INFO: [Synth 8-256] done synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter' (2#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

WARNING: [Synth 8-589] replacing case/wildcard equality operator !== with logical equality operator != [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Many\_Filters.v:30]

INFO: [Synth 8-256] done synthesizing module 'Parallel\_Convolution\_with\_Many\_Filters' (3#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Many\_Filters.v:2]

INFO: [Synth 8-638] synthesizing module 'Tanh\_activation\_Function' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Tanh\_activation\_Function.v:3]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter NO\_OF\_FILTERs bound to: 3 - type: integer

Parameter OUTPUT\_COLs bound to: 28 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Tanh\_activation\_Function' (4#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Tanh\_activation\_Function.v:3]

INFO: [Synth 8-638] synthesizing module 'Average\_pool\_layer' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Average\_pool\_layer.v:3]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 28 - type: integer

Parameter NO\_OF\_IMAGES bound to: 3 - type: integer

Parameter OUTPUT\_COLs bound to: 14 - type: integer

INFO: [Synth 8-638] synthesizing module 'Average\_pool\_layer\_Single\_image' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Average\_pool\_layer\_Single\_image.v:3]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 28 - type: integer

Parameter OUTPUT\_COLs bound to: 14 - type: integer

INFO: [Synth 8-638] synthesizing module 'fp\_avg' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/fp\_avg.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

INFO: [Synth 8-256] done synthesizing module 'fp\_avg' (5#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/fp\_avg.v:2]

INFO: [Synth 8-256] done synthesizing module 'Average\_pool\_layer\_Single\_image' (6#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Average\_pool\_layer\_Single\_image.v:3]

INFO: [Synth 8-256] done synthesizing module 'Average\_pool\_layer' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Average\_pool\_layer.v:3]

INFO: [Synth 8-638] synthesizing module 'Tanh\_activation\_Function\_\_parameterized0' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Tanh\_activation\_Function.v:3]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter NO\_OF\_FILTERs bound to: 3 - type: integer

Parameter OUTPUT\_COLs bound to: 14 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Tanh\_activation\_Function\_\_parameterized0' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Tanh\_activation\_Function.v:3]

INFO: [Synth 8-638] synthesizing module 'Parallel\_Convolution\_with\_Many\_Filters\_\_parameterized0' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Many\_Filters.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 14 - type: integer

Parameter FILTER\_COLs bound to: 5 - type: integer

Parameter NO\_OF\_FILTERs bound to: 3 - type: integer

Parameter OUTPUT\_COLs bound to: 10 - type: integer

Parameter NO\_OF\_IMAGES bound to: 3 - type: integer

INFO: [Synth 8-638] synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter\_\_parameterized0' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 14 - type: integer

Parameter FILTER\_COLs bound to: 5 - type: integer

Parameter OUTPUT\_COLs bound to: 10 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter\_\_parameterized0' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

INFO: [Synth 8-638] synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter\_\_parameterized1' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 14 - type: integer

Parameter FILTER\_COLs bound to: 5 - type: integer

Parameter OUTPUT\_COLs bound to: 10 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter\_\_parameterized1' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

INFO: [Synth 8-638] synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter\_\_parameterized2' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 14 - type: integer

Parameter FILTER\_COLs bound to: 5 - type: integer

Parameter OUTPUT\_COLs bound to: 10 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter\_\_parameterized2' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

WARNING: [Synth 8-589] replacing case/wildcard equality operator !== with logical equality operator != [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Many\_Filters.v:30]

INFO: [Synth 8-256] done synthesizing module 'Parallel\_Convolution\_with\_Many\_Filters\_\_parameterized0' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Many\_Filters.v:2]

INFO: [Synth 8-638] synthesizing module 'Tanh\_activation\_Function\_\_parameterized1' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Tanh\_activation\_Function.v:3]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter NO\_OF\_FILTERs bound to: 3 - type: integer

Parameter OUTPUT\_COLs bound to: 10 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Tanh\_activation\_Function\_\_parameterized1' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Tanh\_activation\_Function.v:3]

INFO: [Synth 8-638] synthesizing module 'Average\_pool\_layer\_\_parameterized0' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Average\_pool\_layer.v:3]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 10 - type: integer

Parameter NO\_OF\_IMAGES bound to: 3 - type: integer

Parameter OUTPUT\_COLs bound to: 5 - type: integer

INFO: [Synth 8-638] synthesizing module 'Average\_pool\_layer\_Single\_image\_\_parameterized0' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Average\_pool\_layer\_Single\_image.v:3]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 10 - type: integer

Parameter OUTPUT\_COLs bound to: 5 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Average\_pool\_layer\_Single\_image\_\_parameterized0' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Average\_pool\_layer\_Single\_image.v:3]

INFO: [Synth 8-638] synthesizing module 'Average\_pool\_layer\_Single\_image\_\_parameterized1' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Average\_pool\_layer\_Single\_image.v:3]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 10 - type: integer

Parameter OUTPUT\_COLs bound to: 5 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Average\_pool\_layer\_Single\_image\_\_parameterized1' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Average\_pool\_layer\_Single\_image.v:3]

INFO: [Synth 8-638] synthesizing module 'Average\_pool\_layer\_Single\_image\_\_parameterized2' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Average\_pool\_layer\_Single\_image.v:3]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 10 - type: integer

Parameter OUTPUT\_COLs bound to: 5 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Average\_pool\_layer\_Single\_image\_\_parameterized2' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Average\_pool\_layer\_Single\_image.v:3]

INFO: [Synth 8-256] done synthesizing module 'Average\_pool\_layer\_\_parameterized0' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Average\_pool\_layer.v:3]

INFO: [Synth 8-638] synthesizing module 'Tanh\_activation\_Function\_\_parameterized2' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Tanh\_activation\_Function.v:3]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter NO\_OF\_FILTERs bound to: 3 - type: integer

Parameter OUTPUT\_COLs bound to: 5 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Tanh\_activation\_Function\_\_parameterized2' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Tanh\_activation\_Function.v:3]

INFO: [Synth 8-638] synthesizing module 'Parallel\_Convolution\_with\_Many\_Filters\_\_parameterized1' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Many\_Filters.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 5 - type: integer

Parameter FILTER\_COLs bound to: 5 - type: integer

Parameter NO\_OF\_FILTERs bound to: 3 - type: integer

Parameter OUTPUT\_COLs bound to: 1 - type: integer

Parameter NO\_OF\_IMAGES bound to: 3 - type: integer

INFO: [Synth 8-638] synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter\_\_parameterized3' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 5 - type: integer

Parameter FILTER\_COLs bound to: 5 - type: integer

Parameter OUTPUT\_COLs bound to: 1 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter\_\_parameterized3' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

INFO: [Synth 8-638] synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter\_\_parameterized4' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 5 - type: integer

Parameter FILTER\_COLs bound to: 5 - type: integer

Parameter OUTPUT\_COLs bound to: 1 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter\_\_parameterized4' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

INFO: [Synth 8-638] synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter\_\_parameterized5' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter IMAGE\_COLs bound to: 5 - type: integer

Parameter FILTER\_COLs bound to: 5 - type: integer

Parameter OUTPUT\_COLs bound to: 1 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Parallel\_Convolution\_with\_Single\_Filter\_\_parameterized5' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Single\_Filter.v:2]

WARNING: [Synth 8-589] replacing case/wildcard equality operator !== with logical equality operator != [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Many\_Filters.v:30]

INFO: [Synth 8-256] done synthesizing module 'Parallel\_Convolution\_with\_Many\_Filters\_\_parameterized1' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_Convolution\_with\_Many\_Filters.v:2]

INFO: [Synth 8-638] synthesizing module 'Tanh\_activation\_Function\_\_parameterized3' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Tanh\_activation\_Function.v:3]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter NO\_OF\_FILTERs bound to: 3 - type: integer

Parameter OUTPUT\_COLs bound to: 1 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Tanh\_activation\_Function\_\_parameterized3' (7#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Tanh\_activation\_Function.v:3]

INFO: [Synth 8-638] synthesizing module 'Parallel\_2D\_multiplier' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_2D\_multiplier.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter Parallel\_PEs\_ROW bound to: 3 - type: integer

Parameter Parallel\_PEs\_COL bound to: 3 - type: integer

Parameter file bound to: C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/Weight Files/weights1.txt - type: string

INFO: [Synth 8-638] synthesizing module 'weights\_Memory' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/weights\_Memory.v:1]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter ADDR\_WIDTH bound to: 9 - type: integer

Parameter parallel\_fc\_PE bound to: 3 - type: integer

Parameter fc\_columns bound to: 3 - type: integer

Parameter tot\_weight\_size bound to: 9 - type: integer

Parameter file bound to: C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/Weight Files/weights1.txt - type: string

INFO: [Synth 8-3876] $readmem data file 'C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/Weight Files/weights1.txt' is read successfully [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/weights\_Memory.v:29]

INFO: [Synth 8-256] done synthesizing module 'weights\_Memory' (8#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/weights\_Memory.v:1]

INFO: [Synth 8-638] synthesizing module 'FC\_Layer\_ANN' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/FC\_LAYER\_ANN.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter parallel\_fc\_PE bound to: 3 - type: integer

INFO: [Synth 8-638] synthesizing module 'PE\_FC\_ANN' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/PE\_FC\_ANN.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

INFO: [Synth 8-256] done synthesizing module 'PE\_FC\_ANN' (9#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/PE\_FC\_ANN.v:2]

INFO: [Synth 8-256] done synthesizing module 'FC\_Layer\_ANN' (10#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/FC\_LAYER\_ANN.v:2]

INFO: [Synth 8-256] done synthesizing module 'Parallel\_2D\_multiplier' (11#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_2D\_multiplier.v:2]

INFO: [Synth 8-638] synthesizing module 'Tanh\_activation\_Function\_\_parameterized4' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Tanh\_activation\_Function.v:3]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter NO\_OF\_FILTERs bound to: 3 - type: integer

Parameter OUTPUT\_COLs bound to: 1 - type: integer

INFO: [Synth 8-256] done synthesizing module 'Tanh\_activation\_Function\_\_parameterized4' (11#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Tanh\_activation\_Function.v:3]

INFO: [Synth 8-638] synthesizing module 'Parallel\_2D\_multiplier\_\_parameterized0' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_2D\_multiplier.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter Parallel\_PEs\_ROW bound to: 3 - type: integer

Parameter Parallel\_PEs\_COL bound to: 1 - type: integer

Parameter file bound to: C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/Weight Files/weights2.txt - type: string

INFO: [Synth 8-638] synthesizing module 'weights\_Memory\_\_parameterized0' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/weights\_Memory.v:1]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter ADDR\_WIDTH bound to: 9 - type: integer

Parameter parallel\_fc\_PE bound to: 3 - type: integer

Parameter fc\_columns bound to: 1 - type: integer

Parameter tot\_weight\_size bound to: 3 - type: integer

Parameter file bound to: C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/Weight Files/weights2.txt - type: string

INFO: [Synth 8-3876] $readmem data file 'C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/Weight Files/weights2.txt' is read successfully [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/weights\_Memory.v:29]

INFO: [Synth 8-256] done synthesizing module 'weights\_Memory\_\_parameterized0' (11#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/weights\_Memory.v:1]

INFO: [Synth 8-638] synthesizing module 'FC\_Layer\_ANN\_\_parameterized0' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/FC\_LAYER\_ANN.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter parallel\_fc\_PE bound to: 1 - type: integer

INFO: [Synth 8-256] done synthesizing module 'FC\_Layer\_ANN\_\_parameterized0' (11#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/FC\_LAYER\_ANN.v:2]

INFO: [Synth 8-256] done synthesizing module 'Parallel\_2D\_multiplier\_\_parameterized0' (11#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/Parallel\_2D\_multiplier.v:2]

INFO: [Synth 8-638] synthesizing module 'softmax\_activation\_Function' [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/softmax\_activation\_Function.v:2]

Parameter DATA\_WIDTH bound to: 16 - type: integer

Parameter OUTPUT\_COLs bound to: 1 - type: integer

INFO: [Synth 8-256] done synthesizing module 'softmax\_activation\_Function' (12#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/softmax\_activation\_Function.v:2]

INFO: [Synth 8-256] done synthesizing module 'CNN\_Main' (13#1) [C:/Users/Z50/Desktop/CUFE/Logic2/final/CNN/CNN.srcs/sources\_1/imports/CNN sources/CNN\_Main.v:2]

---------------------------------------------------------------------------------

Finished Synthesize : Time (s): cpu = 00:04:30 ; elapsed = 00:05:32 . Memory (MB): peak = 1126.320 ; gain = 953.652

---------------------------------------------------------------------------------

---------------------------------------------------------------------------------

Finished Constraint Validation : Time (s): cpu = 00:05:23 ; elapsed = 00:06:30 . Memory (MB): peak = 1126.320 ; gain = 953.652

---------------------------------------------------------------------------------

---------------------------------------------------------------------------------

Start Loading Part and Timing Information

---------------------------------------------------------------------------------

Loading part: xc7a200tfbg676-2

---------------------------------------------------------------------------------

Finished Loading Part and Timing Information : Time (s): cpu = 00:05:23 ; elapsed = 00:06:30 . Memory (MB): peak = 1126.320 ; gain = 953.652

---------------------------------------------------------------------------------

INFO: [Device 21-403] Loading part xc7a200tfbg676-2

INFO: [Synth 8-5545] ROM "j" won't be mapped to RAM because address size (32) is larger than maximum supported(18)

INFO: [Synth 8-5545] ROM "Finish" won't be mapped to RAM because address size (32) is larger than maximum supported(18)