

tf.talk()

A Tiny Tour of TensorFlow

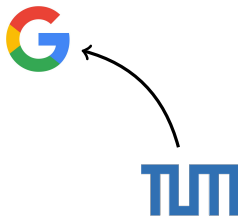


Background

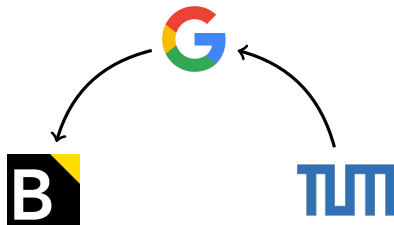
Background



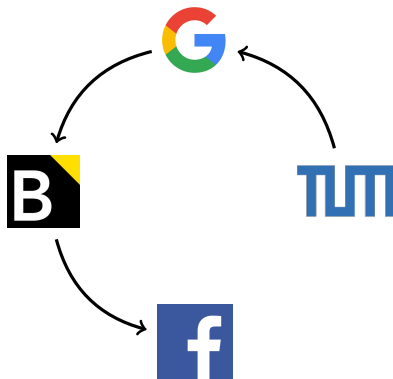
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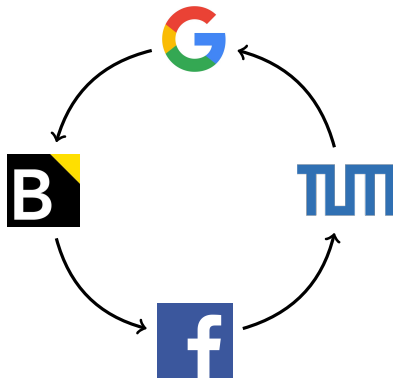
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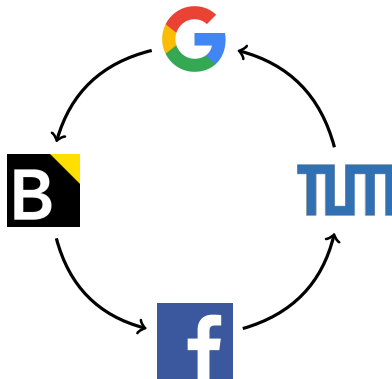
Background



Background



Background



Deep Learning With TensorFlow

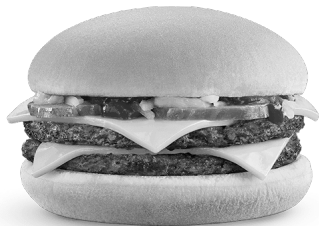
github.com/peter-can-write/tensorflow-paper

Convolutional Layers

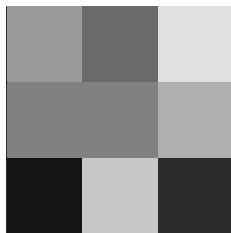
Convolutional Layers



Convolutional Layers



Convolutional Layers



Image

Convolutional Layers

0.4	0.9	0.1
0.7	0.2	0.6
0.8	0.3	0.5

Image

Convolutional Layers

0.4	0.9	0.1
0.7	0.2	0.6
0.8	0.3	0.5

Image

5.7	2.4
3.1	0.9

Kernel

Convolutional Layers

$5.7 \cdot 0.4$	$2.4 \cdot 0.9$	0.1
$3.1 \cdot 0.7$	$0.9 \cdot 0.2$	0.6
0.8	0.3	0.5

Image

Convolutional Layers

$5.7 \cdot 0.4$	$2.4 \cdot 0.9$	0.1
$3.1 \cdot 0.7$	$0.9 \cdot 0.2$	0.6
0.8	0.3	0.5

Image

6.79

Output

Convolutional Layers

0.4	$5.7 \cdot 0.9$	$2.4 \cdot 0.1$
0.7	$3.1 \cdot 0.2$	$0.9 \cdot 0.6$
0.8	0.3	0.5

Image

6.79	6.53
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Output

Convolutional Layers

0.4	0.9	0.1
$5.7 \cdot 0.7$	$2.4 \cdot 0.2$	0.6
$3.1 \cdot 0.8$	$0.9 \cdot 0.3$	0.5

Image

6.79	6.53
7.67	

Output

Convolutional Layers

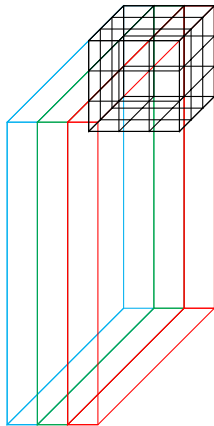
0.4	0.9	0.1
0.7	$5.7 \cdot 0.2$	$2.4 \cdot 0.6$
0.8	$3.1 \cdot 0.3$	$0.9 \cdot 0.5$

Image

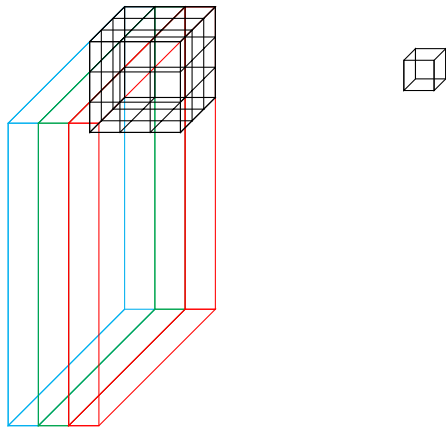
6.79	6.53
7.67	3.96

Output

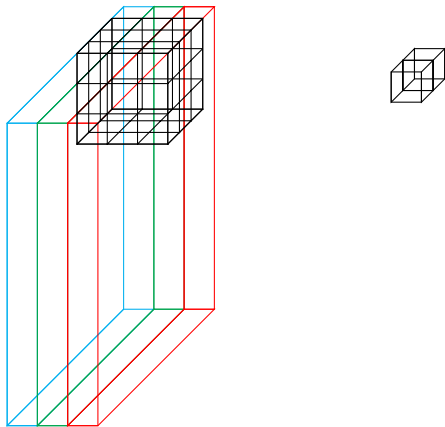
Convolutional Layers



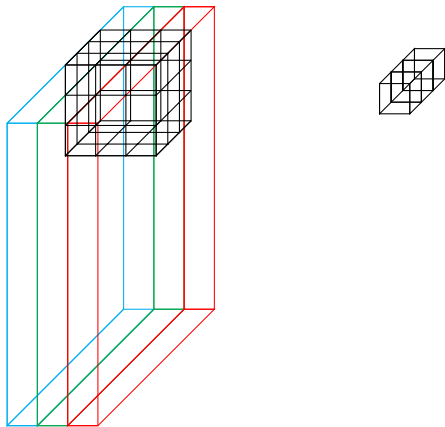
Convolutional Layers



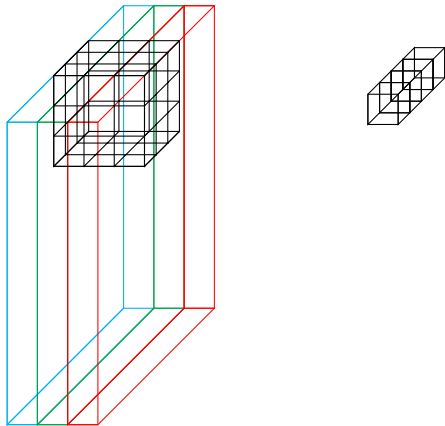
Convolutional Layers



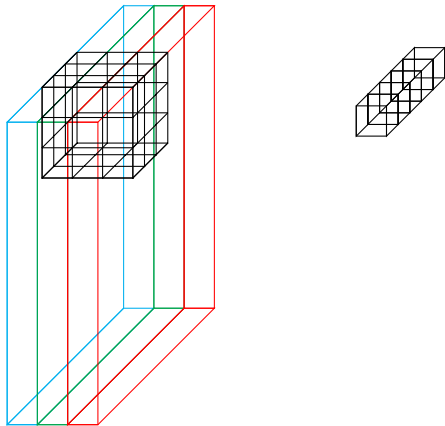
Convolutional Layers



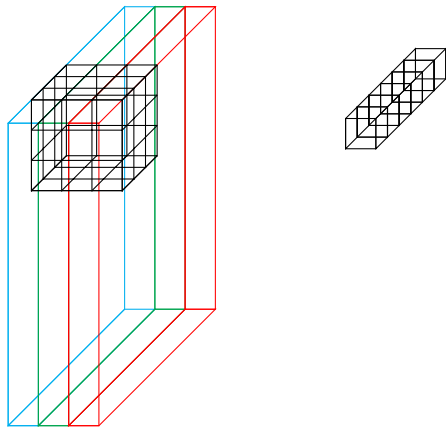
Convolutional Layers



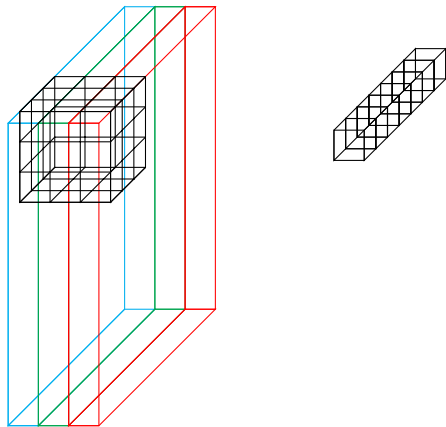
Convolutional Layers



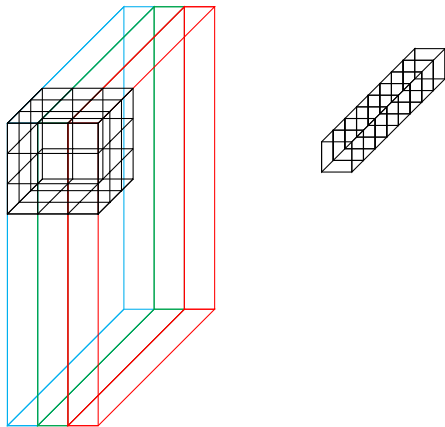
Convolutional Layers



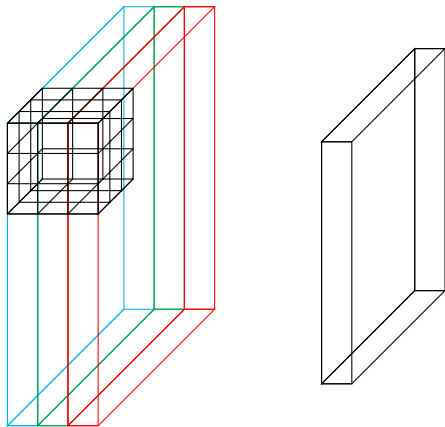
Convolutional Layers



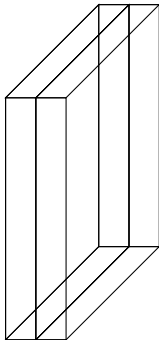
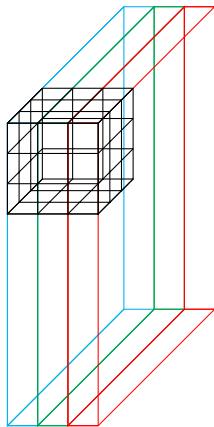
Convolutional Layers



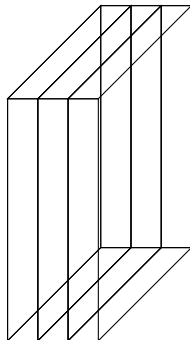
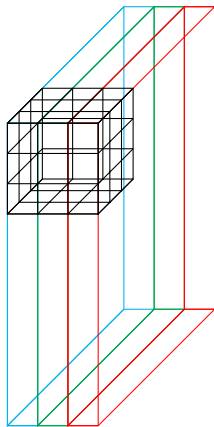
Convolutional Layers



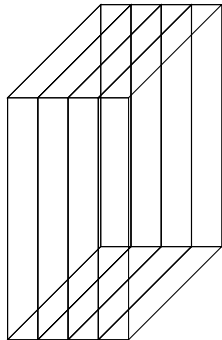
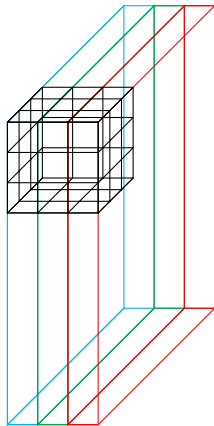
Convolutional Layers



Convolutional Layers



Convolutional Layers



Pooling

Pooling

66	2
6	32

Pooling

66	2
6	32

Pooling

50	17
66	2

Pooling

9	50
33	66

Pooling

5	19	69
66	2	79
6	32	128

Pooling

5	19	69
66	2	79
6	32	128

Pooling

5	19	69
66	2	79
6	32	128

66

Pooling

5	19	69
66	2	79
6	32	128

66	79
----	----

Pooling

5	19	69
66	2	79
6	32	128

66	79
66	

Pooling

5	19	69
66	2	79
6	32	128

66	79
66	128

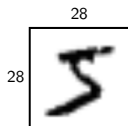
Convolutional Neural Networks

INPUT \rightarrow [CONV+ \rightarrow POOL?]+ \rightarrow FC+ \rightarrow OUTPUT

LeNet5

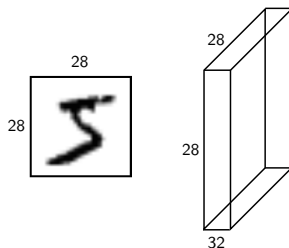
INPUT \rightarrow [CONV \rightarrow POOL] $\{2\}$ \rightarrow FC \rightarrow OUTPUT

LeNet5



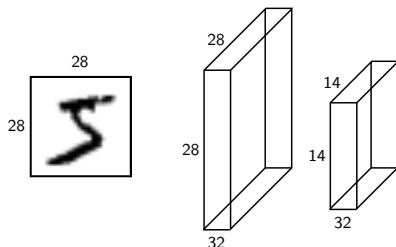
INPUT -> [CONV -> POOL]{2} -> FC -> OUTPUT

LeNet5



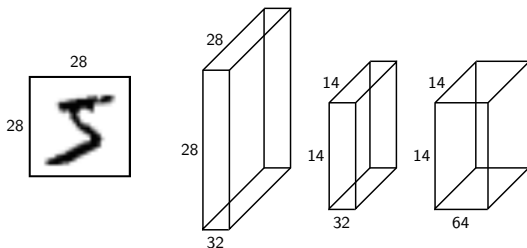
INPUT \rightarrow [CONV \rightarrow POOL] {2} \rightarrow FC \rightarrow OUTPUT

LeNet5



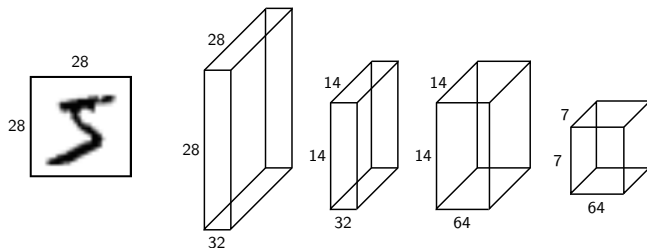
INPUT \rightarrow [CONV \rightarrow POOL] {2} \rightarrow FC \rightarrow OUTPUT

LeNet5



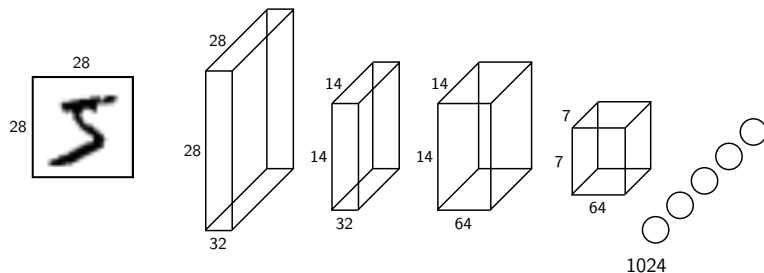
INPUT \rightarrow [CONV \rightarrow POOL] $\{2\}$ \rightarrow FC \rightarrow OUTPUT

LeNet5



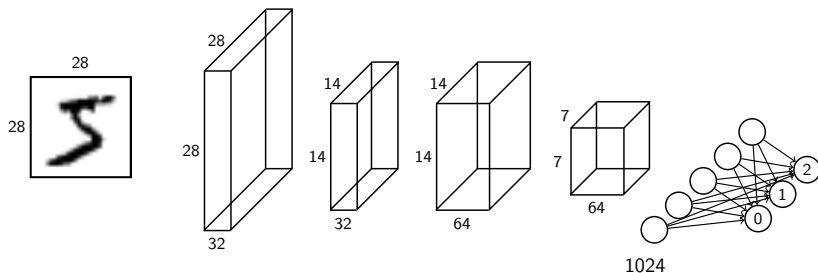
INPUT \rightarrow [CONV \rightarrow POOL] {2} \rightarrow FC \rightarrow OUTPUT

LeNet5



INPUT \rightarrow [CONV \rightarrow POOL] $\{2\}$ \rightarrow FC \rightarrow OUTPUT

LeNet5



INPUT \rightarrow [CONV \rightarrow POOL] {2} \rightarrow FC \rightarrow OUTPUT