```
Model: "sequential"
_________________________________________________________________
Layer (type)                 Output Shape              Param #
=================================================================
conv2d (Conv2D)              (None, 26, 26, 64)        640
_________________________________________________________________
max_pooling2d (MaxPooling2D) (None, 13, 13, 64)        0
_________________________________________________________________
flatten (Flatten)            (None, 10816)             0
_________________________________________________________________
dense (Dense)                (None, 128)               1384576
_________________________________________________________________
dense_1 (Dense)              (None, 10)                1290
=================================================================
Total params: 1,386,506
Trainable params: 1,386,506
Non-trainable params: 0
_________________________________________________________________
```

Layer	Layer Neuron Shape	Activation Shape	Parameters
MNIST Input	(28, 28, 1)	784	0
Conv2D (Filter = 3x3)			
MaxPooling2D			
Flatten Layer			
Dense			
Dense			

Layer	Layer Neuron Shape	Activation Shape	Parameters
MNIST Input	(28, 28, 1)	784	0
Conv2D (Filter = 3x3)	(26, 26, 64)		
MaxPooling2D			
Flatten Layer			
Dense			
Dense			

$$\frac{Dimensions\ -Filter\ Dimension + (2 * Padding)}{Strides} + 1 = \frac{28 - 3 + (2 * 0)}{1} + 1$$

Layer	Layer Neuron Shape	Activation Shape	Parameters
MNIST Input	(28, 28, 1)	784	0
Conv2D (Filter = 3x3)	(26, 26, 64)	43,264	
MaxPooling2D			
Flatten Layer			
Dense			
Dense			

$$26 * 26 * 64 = 43264$$

Layer	Layer Neuron Shape	Activation Shape	Parameters
MNIST Input	(28, 28, 1)	784	0
Conv2D (Filter = 3x3)	(26, 26, 64)	43,264	640
MaxPooling2D			
Flatten Layer			
Dense			
Dense			

$$\{[(Height\ of\ filter * Width\ of\ Filter * Number\ of\ Filters\ in\ Last\ Layer) + 1] * Number\ of\ filters\ in\ current\ layer\}$$

$$\{[(3 * 3 * 1) + 1\ ] * 64\ \} = 640$$

Layer	Layer Neuron Shape	Activation Shape	Parameters
MNIST Input	(28, 28, 1)	784	0
Conv2D (Filter = 3x3)	(26, 26, 64)	43,264	640
MaxPooling2D	(13, 13, 64)	10,816	0
Flatten Layer			
Dense			
Dense			

$$\frac{Conv2D\ Dimensions\ -Pool\ Dimension}{Strides} + 1 = \frac{26-2}{2} + 1 = 13$$

Layer	Layer Neuron Shape	Activation Shape	Parameters
MNIST Input	(28, 28, 1)	784	0
Conv2D (Filter = 3x3)	(26, 26, 64)	43,264	640
MaxPooling2D	(13, 13, 64)	10,816	0
Flatten Layer	(10816, 1)	10,816	0
Dense			
Dense			

Layer	Layer Neuron Shape	Activation Shape	Parameters
MNIST Input	(28, 28, 1)	784	0
Conv2D (Filter = 3x3)	(26, 26, 64)	43,264	640
MaxPooling2D	(13, 13, 64)	10,816	0
Flatten Layer	(10816, 1)	10,816	0
Dense	(128, 1)	128	13,84,576
Dense			

{(Current Layer Neurons * Previous Layer Neurons) + 1 * Current Layers Neurons}

{(128 * 10,816) + 1 * 128} = 13,84,576

Layer	Layer Neuron Shape	Activation Shape	Parameters
MNIST Input	(28, 28, 1)	784	0
Conv2D (Filter = 3x3)	(26, 26, 64)	43,264	640
MaxPooling2D	(13, 13, 64)	10,816	0
Flatten Layer	(10816, 1)	10,816	0
Dense	(128, 1)	128	13,84,576
Dense	(10, 1)	10	1290

{(Current Layer Neurons * Previous Layer Neurons) + 1 * Current Layers Neurons}

{(10 * 128) + 1 * 10} = 1290

```
Model: "sequential"
_________________________________________________________________
Layer (type)                 Output Shape              Param #
=================================================================
conv2d (Conv2D)              (None, 26, 26, 64)        640
_________________________________________________________________
max_pooling2d (MaxPooling2D) (None, 13, 13, 64)        0
_________________________________________________________________
conv2d_1 (Conv2D)            (None, 11, 11, 64)        36928
_________________________________________________________________
max_pooling2d_1 (MaxPooling2 (None, 5, 5, 64)          0
_________________________________________________________________
flatten (Flatten)            (None, 1600)              0
_________________________________________________________________
dense (Dense)                (None, 128)               204928
_________________________________________________________________
dense_1 (Dense)              (None, 10)                1290
=================================================================
Total params: 243,786
Trainable params: 243,786
Non-trainable params: 0
_________________________________________________________________
```

Layer	Layer Neuron Shape	Activation Shape	Parameters
MNIST Input	(28, 28, 1)	784	0
Conv2D (Filter = 3x3)	(26, 26, 64) $\frac{28-3}{1}+1=26$	43,264 $26*26*64=43264$	640 $((3*3*1)+1)*64=640$
MaxPooling2D	(13, 13, 64) $\frac{26-2}{2}+1=13$	10,816 $13*13*64=10816$	0
Conv2D (Filter = 3x3)	(11, 11, 64) $\frac{13-3}{1}+1=11$	7,744 $11*11*64=7744$	36,928 $((3*3*64)+1)*64=36928$
MaxPooling2D	(5, 5, 64) $\frac{11-2}{2}+1=11$	1,600 $5*5*64=1600$	0
Flatten Layer	(1600, 1) $5*5*64=1600$	1,600	0
Dense	(128, 1)	128	204,928 $(128*1600)+(1*128)=204928$
Dense	(10, 1)	10	1290 $(10*128)+(1*10)=1290$