

Activation: ReLu

Layer (type)	Output Shape	Param #
conv2d_1 (Conv2D)	(None, 30, 30, 32)	896
conv2d_2 (Conv2D)	(None, 26, 26, 64)	51264
max_pooling2d_1 (MaxPooling2D)	(None, 8, 8, 64)	0
batch_normalization_1 (Batch Normalization)	(None, 8, 8, 64)	256
dropout_1 (Dropout)	(None, 8, 8, 64)	0
flatten_1 (Flatten)	(None, 4096)	0
dense_1 (Dense)	(None, 1024)	4195328
batch_normalization_2 (Batch Normalization)	(None, 1024)	4096
dense_2 (Dense)	(None, 1024)	1049600
batch_normalization_3 (Batch Normalization)	(None, 1024)	4096
dropout_2 (Dropout)	(None, 1024)	0
dense_3 (Dense)	(None, 10)	10250
Total params: 5,315,786		
Trainable params: 5,311,562		
Non-trainable params: 4,224		

Train on 36000 samples, validate on 4000 samples

Accuracy: 66.68

Activation: TanH

Layer (type)	Output Shape	Param #
conv2d_1 (Conv2D)	(None, 30, 30, 32)	896
conv2d_2 (Conv2D)	(None, 28, 28, 64)	18496
max_pooling2d_1 (MaxPooling2D)	(None, 14, 14, 64)	0
conv2d_3 (Conv2D)	(None, 12, 12, 64)	36928
batch_normalization_1 (Batch Normalization)	(None, 12, 12, 64)	256
dropout_1 (Dropout)	(None, 12, 12, 64)	0
flatten_1 (Flatten)	(None, 9216)	0

dense_1 (Dense)	(None, 1024)	9438208
batch_normalization_2 (Batch Normalization)	(None, 1024)	4096
dense_2 (Dense)	(None, 1024)	1049600
dropout_2 (Dropout)	(None, 1024)	0
dense_3 (Dense)	(None, 10)	10250
Total params: 10,558,730		
Trainable params: 10,556,554		
Non-trainable params: 2,176		

Train on 36000 samples, validate on 4000 samples

Accuracy: 66.47

Activation: Sigmoid

Layer (type)	Output Shape	Param #
conv2d_1 (Conv2D)	(None, 28, 28, 32)	2432
conv2d_2 (Conv2D)	(None, 26, 26, 64)	18496
max_pooling2d_1 (MaxPooling2D)	(None, 13, 13, 64)	0
conv2d_3 (Conv2D)	(None, 11, 11, 64)	36928
batch_normalization_1 (Batch Normalization)	(None, 11, 11, 64)	256
dropout_1 (Dropout)	(None, 11, 11, 64)	0
flatten_1 (Flatten)	(None, 7744)	0
dense_1 (Dense)	(None, 1024)	7930880
batch_normalization_2 (Batch Normalization)	(None, 1024)	4096
dense_2 (Dense)	(None, 1024)	1049600
dropout_2 (Dropout)	(None, 1024)	0
dense_3 (Dense)	(None, 10)	10250
Total params: 9,052,938		
Trainable params: 9,050,762		
Non-trainable params: 2,176		

Train on 45000 samples, validate on 5000 samples

Accuracy: 68.54