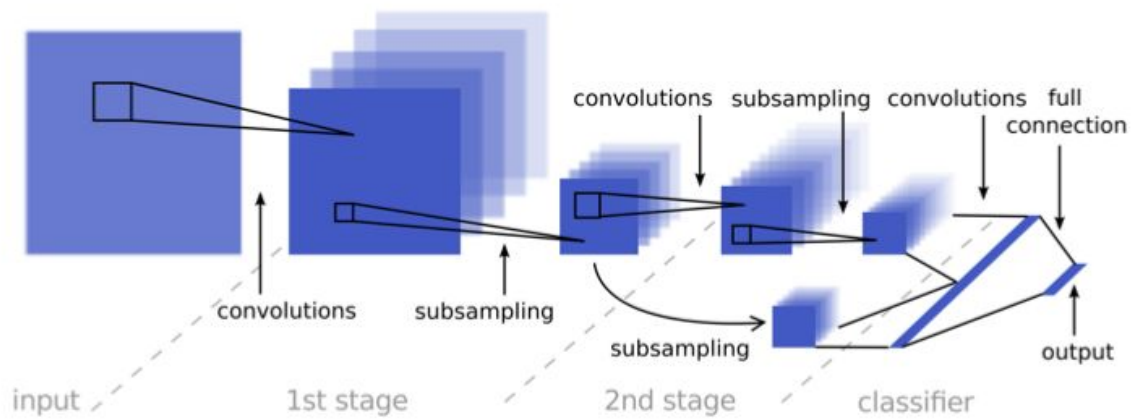


I classify digits of real-world house numbers using convolutional neural networks (ConvNets).  
Using SVHN dataset (<http://ufldl.stanford.edu/housenumbers/>).  
I used <https://arxiv.org/pdf/1204.3968.pdf> for architecture of network but there i don't use Lp-Pooling.



I also used from techniques that find ROI of image from these reference with little changes:

And this is some example:





More example in openCV-image

The best result is in the network3.py :

step 0, training accuracy 0.109375  
step 100, training accuracy 0.25  
step 200, training accuracy 0.453125  
step 300, training accuracy 0.703125  
step 400, training accuracy 0.75  
step 500, training accuracy 0.71875  
step 600, training accuracy 0.8125  
step 700, training accuracy 0.796875  
step 800, training accuracy 0.78125  
step 900, training accuracy 0.828125  
step 1000, training accuracy 0.84375  
step 1100, training accuracy 0.8125  
step 1200, training accuracy 0.859375

step 1300, training accuracy 0.875  
step 1400, training accuracy 0.8125  
step 1500, training accuracy 0.875  
step 1600, training accuracy 0.84375  
step 1700, training accuracy 0.84375  
step 1800, training accuracy 0.890625  
step 1900, training accuracy 0.890625  
step 2000, training accuracy 0.90625  
step 2100, training accuracy 0.875  
step 2200, training accuracy 0.84375  
step 2300, training accuracy 0.875  
step 2400, training accuracy 0.859375  
step 2500, training accuracy 0.796875  
step 2600, training accuracy 0.859375  
step 2700, training accuracy 0.90625  
step 2800, training accuracy 0.875  
step 2900, training accuracy 0.859375  
step 3000, training accuracy 0.875  
step 3100, training accuracy 0.859375  
step 3200, training accuracy 0.875  
step 3300, training accuracy 0.890625  
step 3400, training accuracy 0.90625  
step 3500, training accuracy 0.859375  
step 3600, training accuracy 0.90625  
step 3700, training accuracy 0.78125  
step 3800, training accuracy 0.921875  
step 3900, training accuracy 0.890625  
step 4000, training accuracy 0.953125  
step 4100, training accuracy 0.9375  
step 4200, training accuracy 0.9375  
step 4300, training accuracy 0.84375  
step 4400, training accuracy 0.875  
step 4500, training accuracy 0.953125  
step 4600, training accuracy 0.9375  
step 4700, training accuracy 0.90625  
step 4800, training accuracy 0.875  
step 4900, training accuracy 0.921875  
step 5000, training accuracy 0.953125  
step 5100, training accuracy 0.921875  
step 5200, training accuracy 0.890625  
step 5300, training accuracy 0.953125  
step 5400, training accuracy 0.9375  
step 5500, training accuracy 0.9375  
step 5600, training accuracy 0.875  
step 5700, training accuracy 0.875  
step 5800, training accuracy 0.953125  
step 5900, training accuracy 0.90625  
step 6000, training accuracy 0.90625  
step 6100, training accuracy 0.9375  
step 6200, training accuracy 0.875  
step 6300, training accuracy 0.859375  
step 6400, training accuracy 0.875  
step 6500, training accuracy 0.953125  
step 6600, training accuracy 0.9375

step 6700, training accuracy 0.921875  
step 6800, training accuracy 0.9375  
step 6900, training accuracy 0.90625  
step 7000, training accuracy 0.921875  
step 7100, training accuracy 0.90625  
step 7200, training accuracy 0.9375  
step 7300, training accuracy 0.953125  
step 7400, training accuracy 0.9375  
step 7500, training accuracy 0.953125  
step 7600, training accuracy 0.96875  
step 7700, training accuracy 0.921875  
step 7800, training accuracy 0.828125  
step 7900, training accuracy 0.9375  
step 8000, training accuracy 1  
step 8100, training accuracy 0.890625  
step 8200, training accuracy 0.90625  
step 8300, training accuracy 0.96875  
step 8400, training accuracy 0.921875  
step 8500, training accuracy 0.90625  
step 8600, training accuracy 0.9375  
step 8700, training accuracy 0.890625  
step 8800, training accuracy 0.9575  
step 8900, training accuracy 0.951875  
step 9000, training accuracy 0.96875  
step 9100, training accuracy 0.921875  
step 9200, training accuracy 0.984375  
step 9300, training accuracy 0.951875  
step 9400, training accuracy 0.93625  
step 9500, training accuracy 0.96875  
step 9600, training accuracy 0.9575  
step 9700, training accuracy 0.95625  
step 9800, training accuracy 0.9375  
step 9900, training accuracy 0.9375  
step 10000, training accuracy 0.921875  
test accuracy 0.9307081280788177