Deep Learning PA_4

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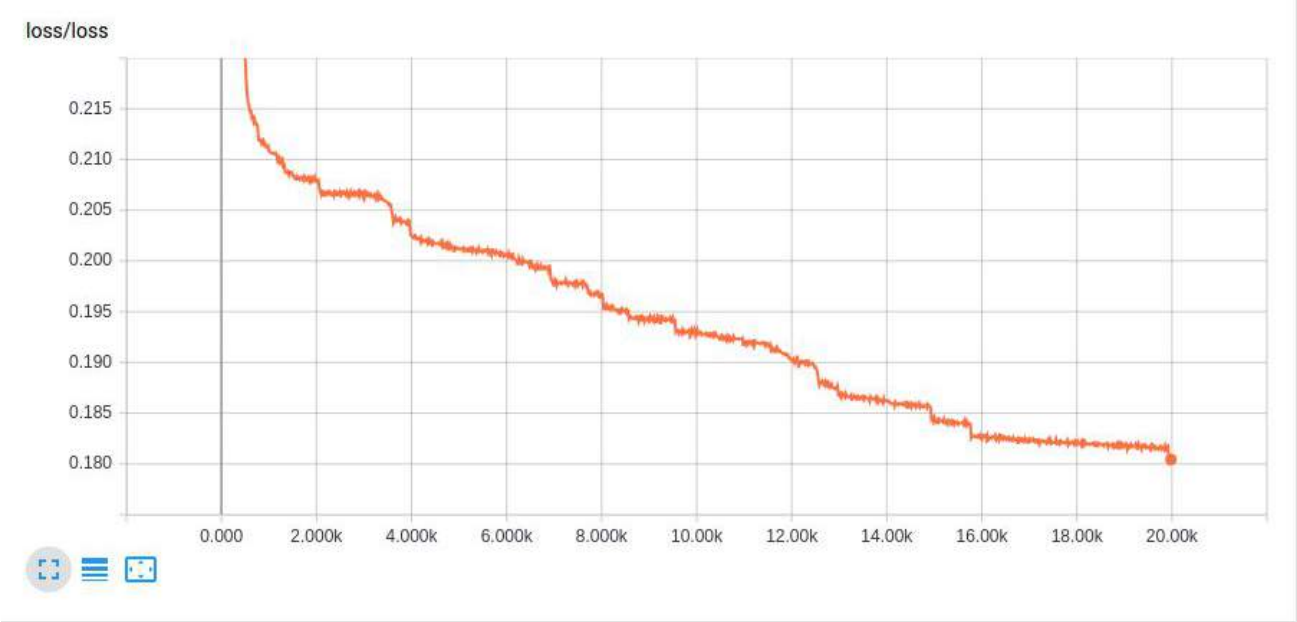
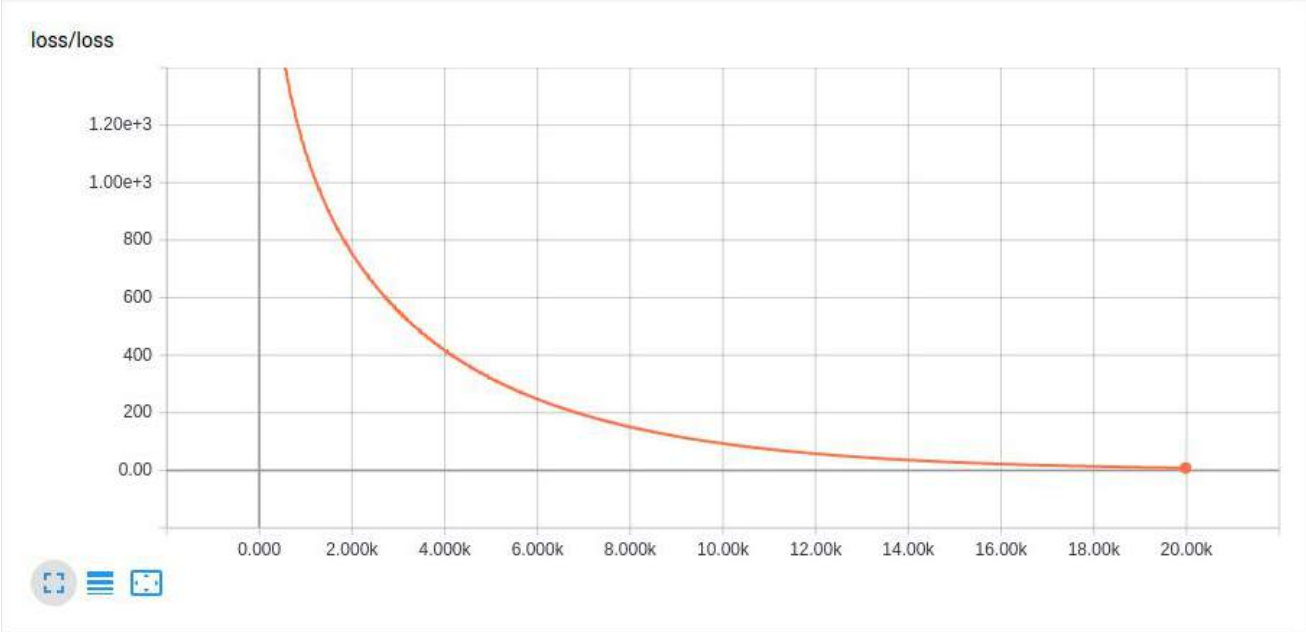
EP14B035

1)



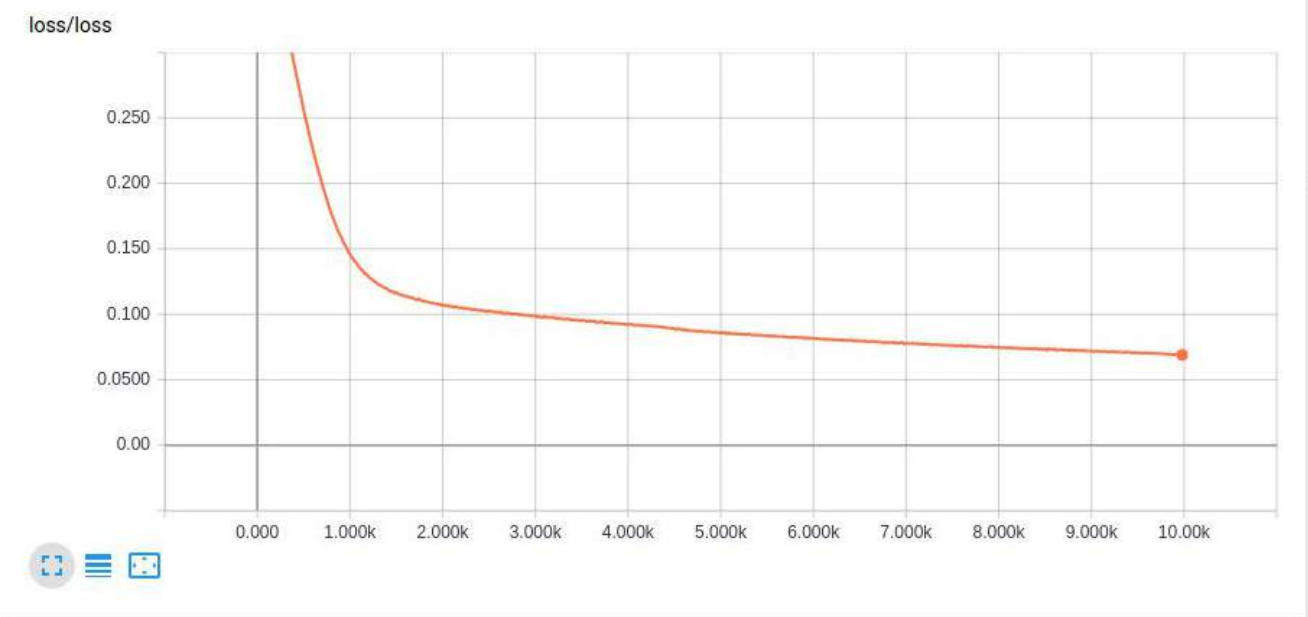
Testing Loss: 0.18023533



Testing Loss: 7.8763685

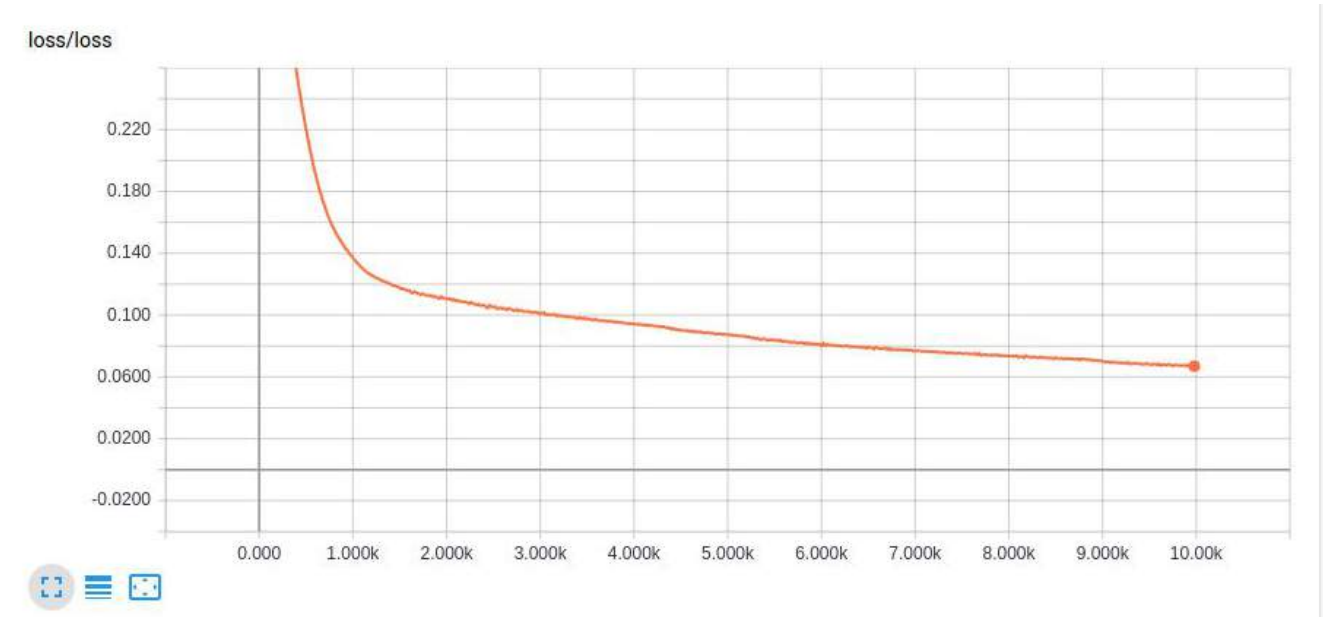
2)

Hidden layer size = 256



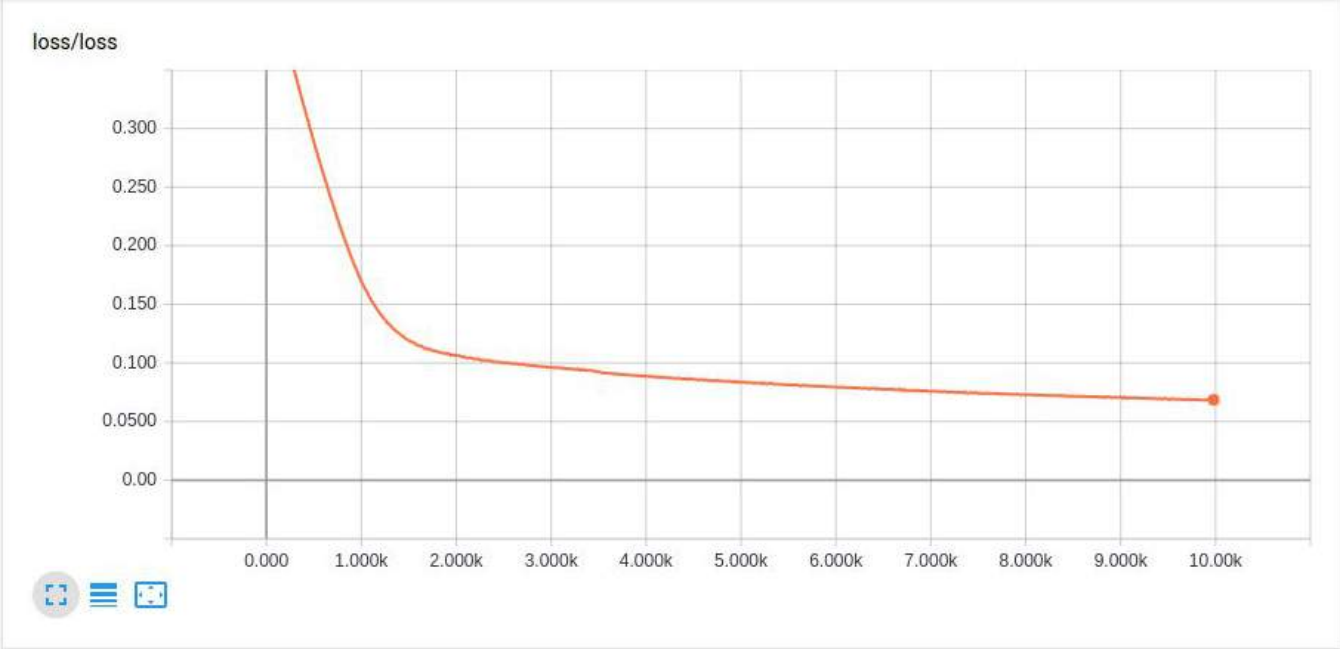
Testing Loss: [0.068602473]

Hidden layer size = 500



Testing Loss: [0.066980153]

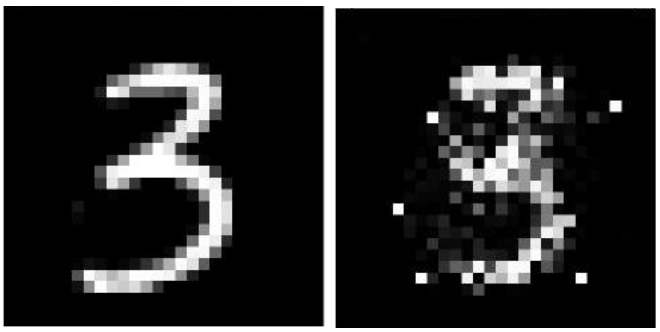
Hidden layer size = 150



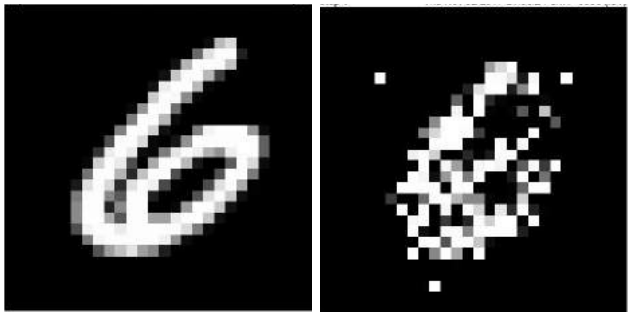
Testing Loss: [0.068055995]

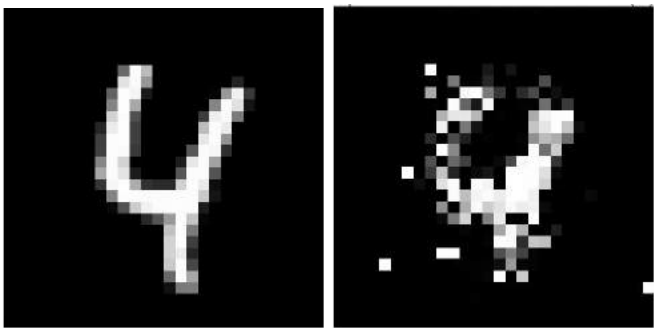
Reconstruction

150

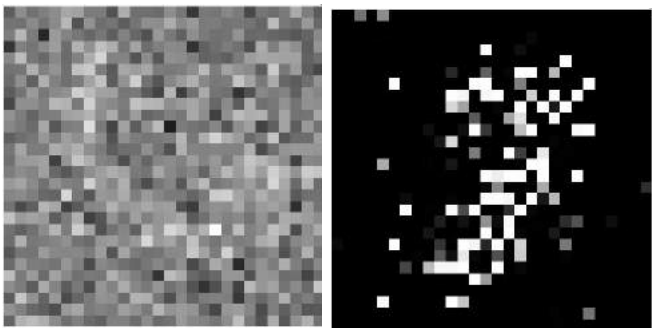


500

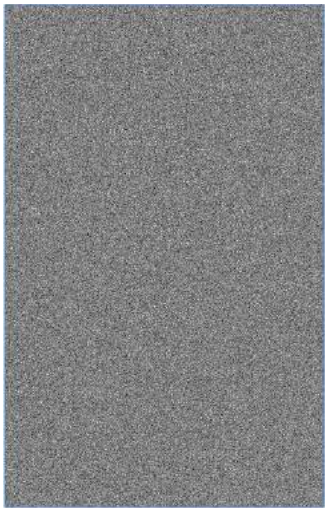




Noisy input to 500 sized hidden layer

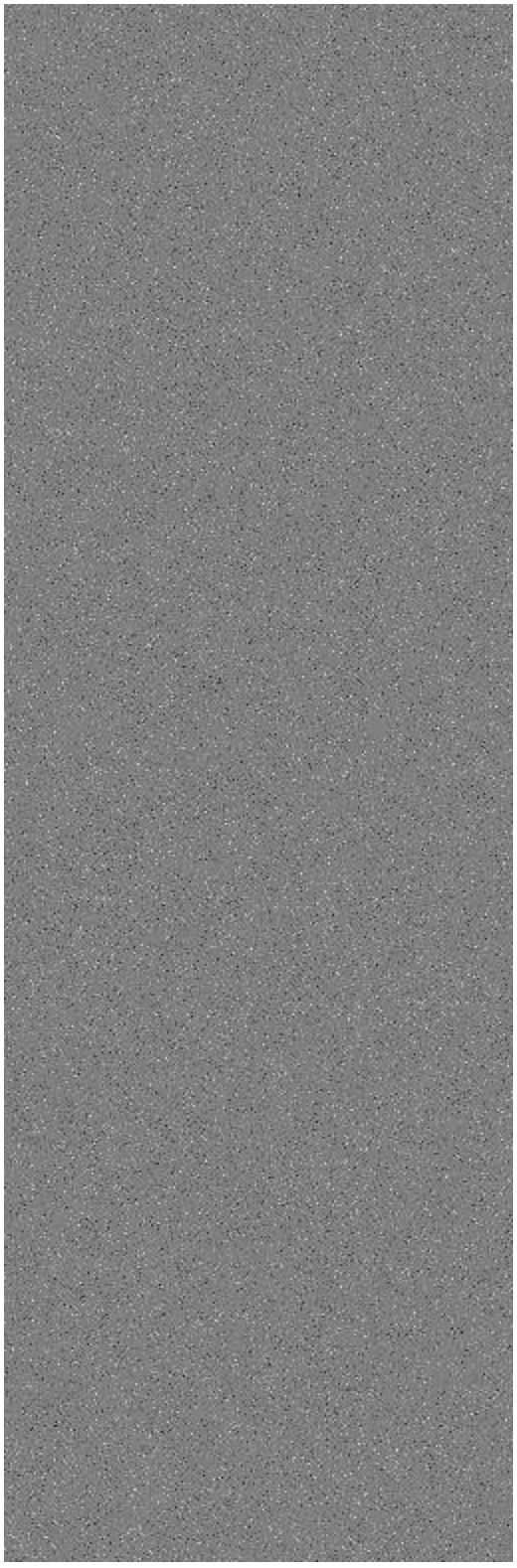


Filter for 500 sized hidden layer



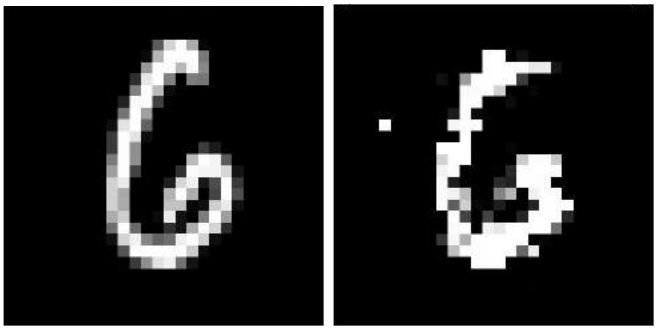
Each of the vectors of the hidden layer captures some latent feature of the digits.

2)

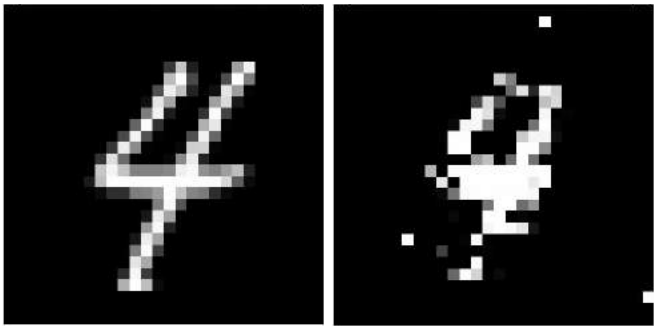


There are lots of dots in sparse encoder than in the standard auto encoder

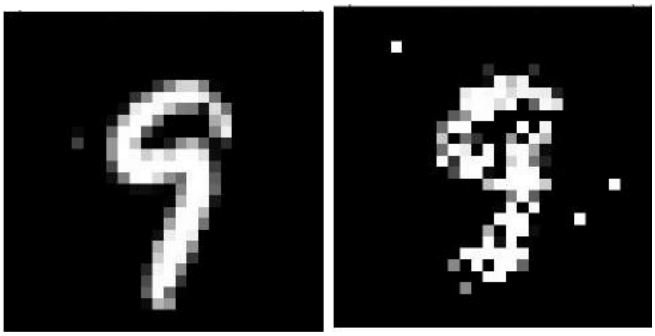
4) Noise level = 0.3



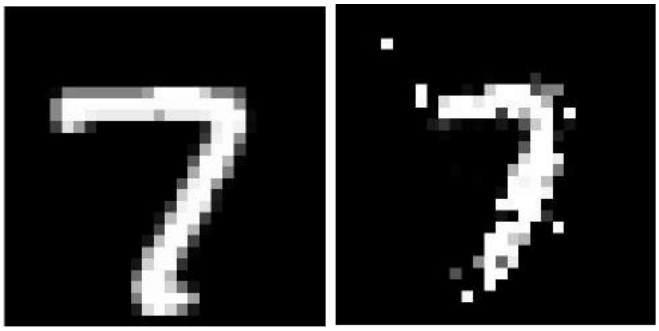
Noise level = 0.5



Noise level = 0.8



Noise level = 0.9



Filter with noise level = 0.8