

PA_5 Report

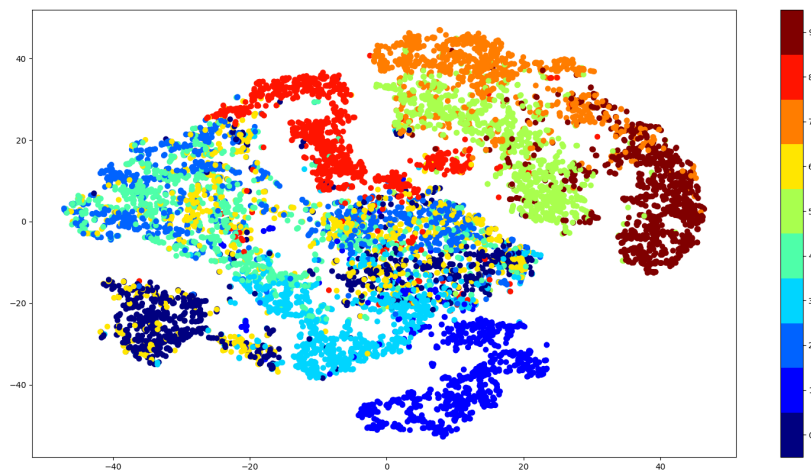
Abhishek Peri:ME15B129, Asit: ME15B087

April 30, 2018

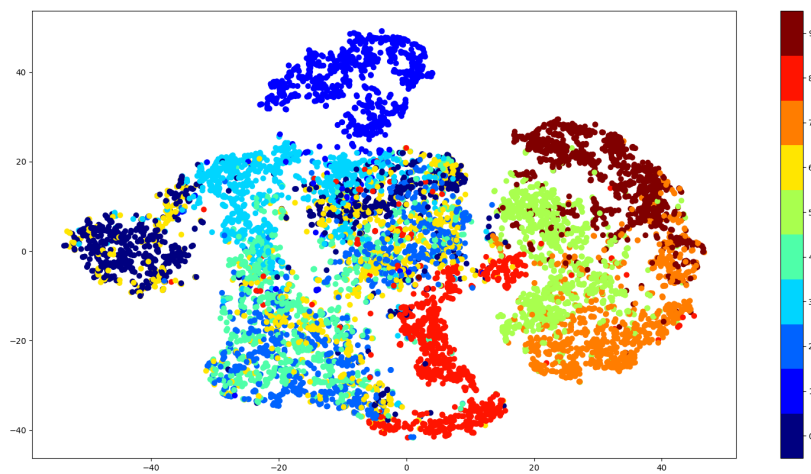
1 Report Questions

1.1 Question 1

1. The plot for $n = 300$

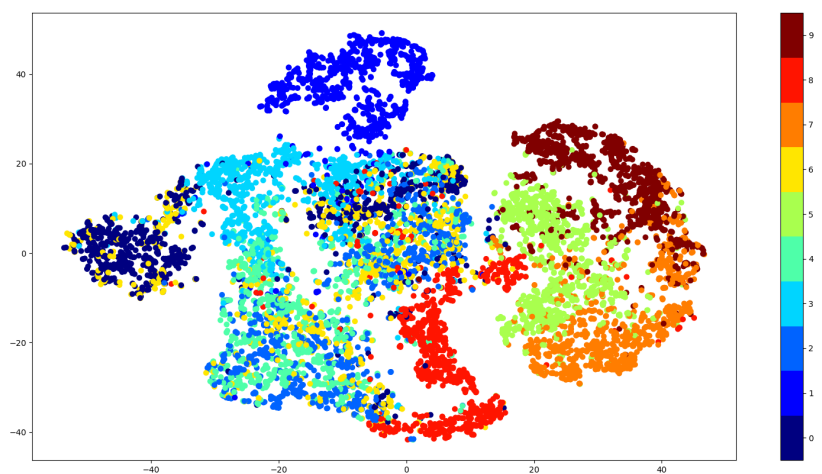


1. the plot for $n = 500$

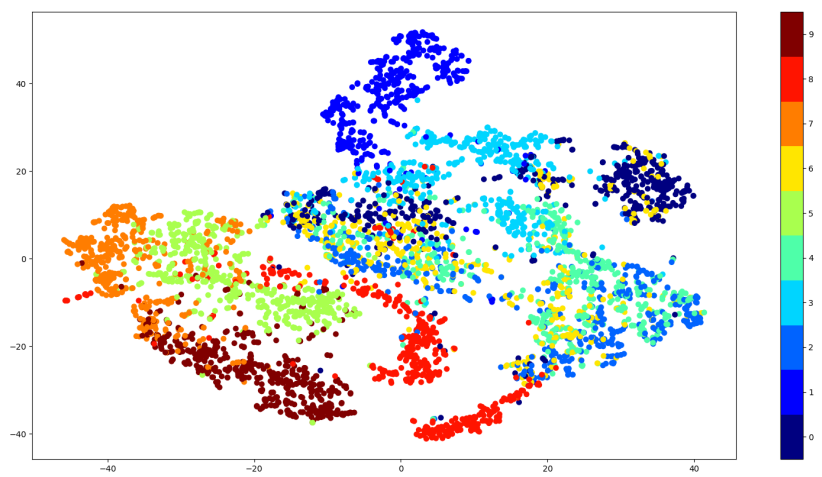


1.2 Question 2

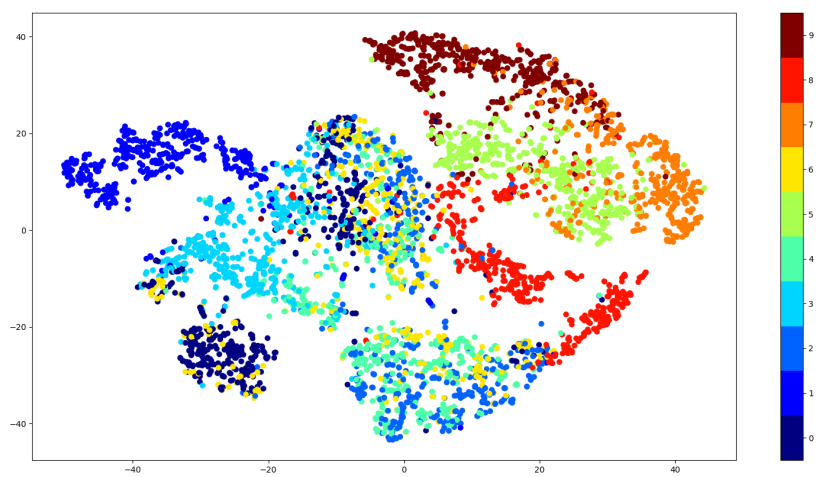
1. the plot for $n = 500$, $k=1$



1. the plot for $n = 500$, $k=2$

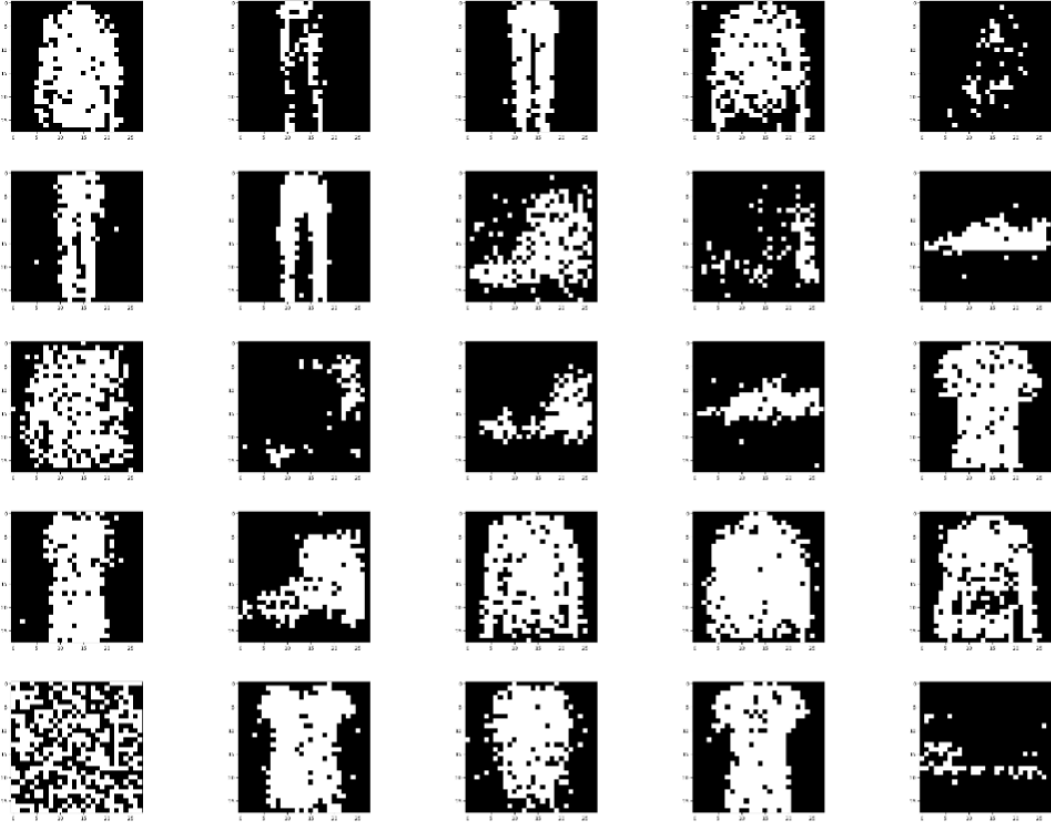


1. the plot for $n = 500$, $k=3$



1.3 Question 3

1. the following 25 are the samples of the V 's each after $m/64$ steps of SGD. Only 25 of these are plotted here.



1.4 Question 4

1. Gibbs block sampling was implemented
2. To check number of steps after which the required distribution is reached we had a rolling average of v over 10 samples at a time. We checked for MSE between consecutive samples with the hope that the MSE will tend to zero as time steps proceed.(code attached)
3. The number of steps required were maximum of 100-120 at the beginning , but as SGD converged they decreased.For fully trained weights MSE trend was random, implying 0 (minimal) time-steps necessary