Ahsanullah University of Science and Technology

Department of Computer Science and Engineering

Course No. : CSE4238
Course Name : Soft Computing Lab

Assignment No. : 02

Submitted By:

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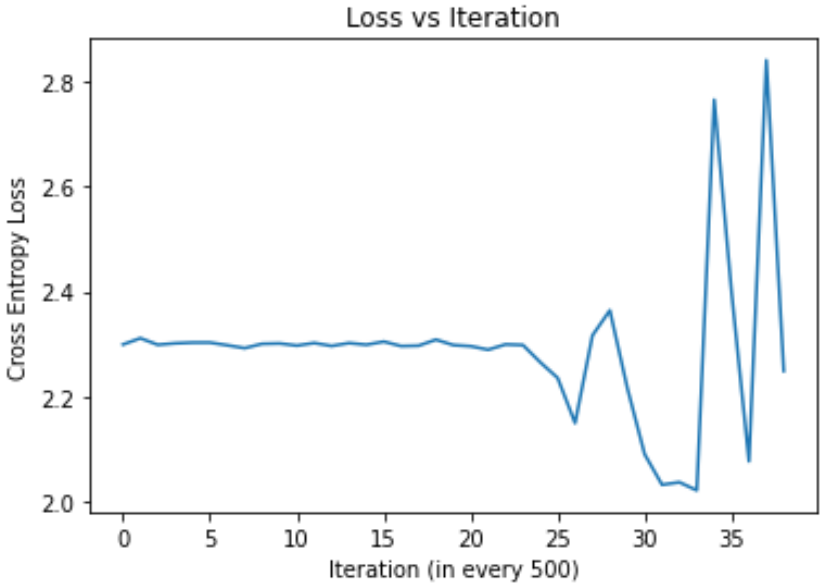
The comparison between Experiment1 and Experiment 2 for the first dataset is given below –

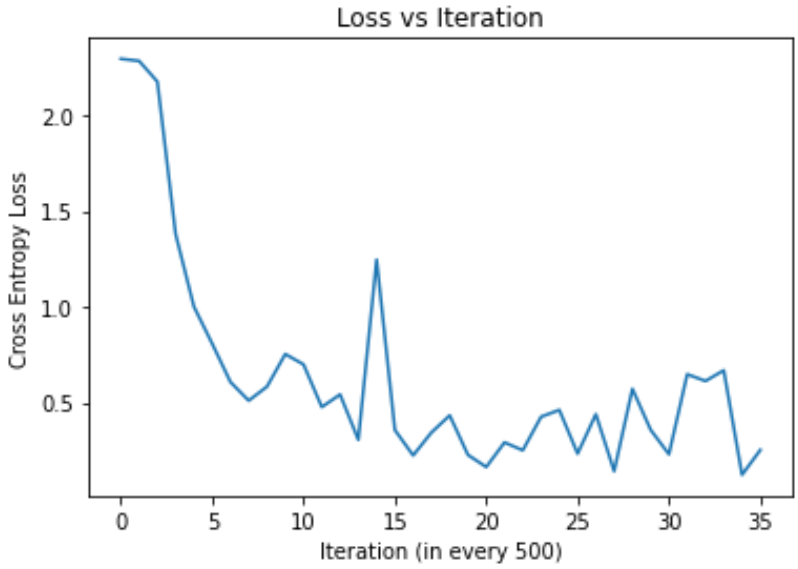
	Batch size	No of hidden layer	No of Nodes in hidden layer	Input dimension	Iteration	Optimizer	Highest Accuracy
Experiment 1	20	6	200	28*28	20000	SGD	12.06
Experiment 2	125	1	680	28*28	32000	Adam	87.03

In Exp-1 we used 6 layer and get 12.06 % accuracy. And in Exp-2 used 1 layer and get 87.03% accuracy. In Experiment-1 we get less accuracy because model get over fitted.
That's why we used a less number of hidden layer in Experiment -2.

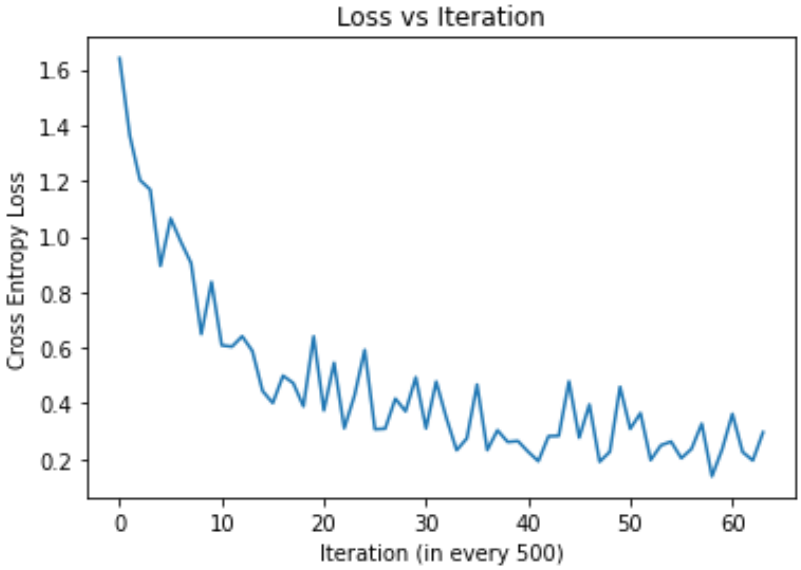
Loss vs Iteration graph for experiment 1 is given below(1st Data Set)-



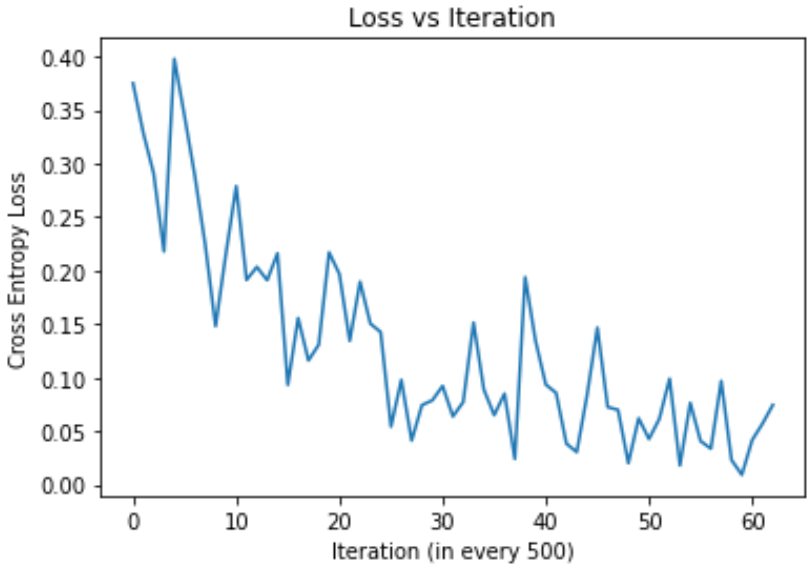
Loss vs Iteration graph for Experiment-1 is given bellow (2nd Data Set)-



Loss vs Iteration graph for Experiment-2 is given below (1st Data Set)-



Loss vs Iteration graph for Experiment-2 is given below (2nd Data Set)-



The comparison between Experiment1 and Experiment 2 for the first dataset and Second dataset is given below-

		Dataset 1						Dataset 2				
Experiment1	Batch size	No of hidden layer	Input dimen s-ion	Iterati-on	Optim izer	Highest Accuracy	Batch size	No of hidden layer	Input dimen-sion	Itera-tion	Optimi zer	Highest Accuracy
	20	6	28*28	20000	SGD	12.06	20	6	28*28	20000	SGD	86.98
Experiment2	125	1	28*28	32000	Adam	87.03	125	1	28*28	32000	Adam	90.05

For dataset-1, In Experiment-1 we used 6 layer and get 12.06 % accuracy. And in Experiment-2 used 1 layer and get 87.03% accuracy. In Experiment-1 we get less accuracy because model get over fitted.
That's why we used a less number of hidden layer in Experiment -2.

Github link: https://github.com/reza17-bit/SCA2