Deep Learning for Computer Vision assignment

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Results

Dataset	Epochs	Learning rate	Optimizer	Final loss
daily-max-temperature	2000	0.01	Adam	0.01228
	1000	0.01	Adam	0.01236
	1500	0.001	Adam	0.01872
	1500	0.1	Adam	0.01226
	2000	0.1	Adam	0.01213
	2000	0.01	SGD	0.02837
	1000	0.01	SGD	0.02696
	1500	0.001	SGD	0.04998
	1500	0.1	SGD	0.01506
	2000	0.1	SGD	0.01425
monthly-robberies	2000	0.01	Adam	0.01212
	1000	0.01	Adam	0.01339
	1500	0.001	Adam	0.01932
	1500	0.1	Adam	0.01241
	2000	0.1	Adam	0.01213
	2000	0.01	SGD	0.02168
	1000	0.01	SGD	0.02849
	1500	0.001	SGD	0.02910
	1500	0.1	SGD	0.01478
	2000	0.1	SGD	0.01339

Comments

The aim of the experiment was to train an LSTM model over a dataset changing the hyperparameters; we decided to use two different datasets just to be sure that the results were consistent. The dataset used are the following:

- *daily-max-temperature*: contains the maximum temperature for each day from 1981 to 1990.
- *monthly-robberies*: contains the number of robberies for each month from 1966 to 1975.

We decided to first change the number of epochs, then the learning rate and finally the Optimizer. As we can see from the above table, Adam performs slightly better than SGD in both dataset meaning that for this task it is better to use the first optimizer.