



Linköping University

TDDC17 ARTIFICIAL INTELLIGENCE **Lab 6: Deep Learning**

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Part 3

Q3. Here you will evaluate different mini-batch sizes for stochastic gradient descent (see the deep learning lecture). Please separately run the training code above with batch sizes of 1, 10, 100, 1000 and 60000. Write down the training times (you can use the first number in seconds, not the per sample time) and the training set accuracy reached, both in the first line of the output. This can randomly vary a bit between runs but it should give you an idea. In your lab report, plot both curves and reason about which batch size produced the most accuracy given the time spent, i.e. which batch size would be best to start the training with? You have to run the Reset All Parameters code above this one between your runs to always start over.

Batch Size	Time Duration in (seconds)	Accuracy	Loss
1	114s	0.8110	0.5302
10	13s	0.8263	0.4786