Deep Learning Lab

25.09.2020

Due date: 27 September 2020, 23:59

In this lab, you will implement and compare the SVM loss (also known as the Hinge loss) and Cross-entropy loss with softmax, which we talked about in the last two classes. To do this, create a 10x100 matrix whose rows correspond to 10 different image classes and whose columns represent different inputs. The element, a_{ij}(the element in the i^{th}row and j^{th} column) is a randomly generated floating-point value representing the assignment of input j to class i.

After populating the table with random values between -10 and 10, generate the ground-truth, i.e., randomly generate the correct class for each input. Once the values are determined, you can then compute the SVM and cross-entropy losses for each input and average the result. Repeat this process a number of times and graph both losses for each iteration.

Submission

Please zip all your files and submit them through Moodle before the deadline.

Late submissions will lose 20 points for each
day.

Labs should be completed individually. In the event that academic misconduct such as plagiarism or cheating is discovered, the student will receive no credit for the work, and the event reported to the Dean of your school. Please consult the Academic Integrity Statement given in the syllabus for more details about academic honesty.