Tutorial Set 2

Jayadeva

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Instructions

Please try all questions *yourself*. Ask one of the TAs or me, offline or in the class, in case you have doubts.
Submission due 30-09-2023

NN Training	**Grade:**
Using images from the web, create a dataset with at least 2500 samples, for training a neural network to recognize if an input image is a face / non-face. Split the dataset into training, validation, and test sets. Train a neural network using (a) hinge loss function (b) cross entropy loss function. Use at least 2 hidden layers. Plot the training, validation, and test loss values across epochs. Determine the receptive field of any chosen neuron in each layer. Explain your approach to determining this. The receptive field of a neuron is defined as the primary (first) layer input that excites this neuron the most. Add a regularization term and determine how the training changes. Determine how to tune the hyperparameter that controls the emphasis on the mis-classification term. Repeat all other steps described above.	***Faculty Comments***