

**Applied Machine Learning**  
**Assignment 2 (Given Jan. 25, 2020, 2019; Due Jan. 29, 2020)**

Code and results must be uploaded in Moodle by midnight of the day it is due. If the question requires a textual response, you can create a PDF and upload that. The PDF might be generated from MS-WORD, L<sup>A</sup>T<sub>E</sub>X, the image of a handwritten response, or using any other mechanism. Late HW carries a penalty of 25% per day. **Do not copy or use unfair practices**

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In the class we worked with the MNIST data and obtained several validation measures (confusion matrix, precision, recall, F1, ROC etc.) for the case of a binary classifier (predicting if a digit is "5" or not).

**(40 points)** Take all the 10 classes. Use a simple k-nn classifier and obtain the confusion matrix, precision, recall, and F1 values for  $k = 3$