19 essay questions
All questions were theoretical questions covering all topics with no proofs or math problems
Total marks: 120 (1 mark/min)

1) Define the Machine Learning Recipe
2) What's the key idea of Adaboost algorithm ? Explain using a diagram
3) Why can't adaboost work for more than binary classification? How would you modify it to work for more?
4) What's the difference between wrapper method and filter method for feature selection?
5) Compare between AI, ML, & DL
6) If u train a neural network and get 54% training accuracy and 51% validation accuracy, explain what u will do next
7) Explain with examples the linear perceptron update rule (Withrow Hoff wala mesh faker esmo eh)
8) Explain the naive estimator method, write the formula used and compare it to histogram analysis
9) Explain the kernel density estimation technique with multidimensional case equations.
10) Explain why relu is used instead of sigmoid
11) Explain the least square classifier. No need for proof
12) What are the main issues in GMM?
13) types of features to be removed in feature selection method
14) Explain regularization and why it is used
15) the importance of statistical testing.
16) Explain how bayes rule can be used in classification
17) Explain the importance of deseasonalization using diagrams.
18) Explain steps of back propagation, and state its disadvantages.
19) Explain the three methods used to update weights.

Update 28/12/2019: Final Fall 2019:
was exactly the same, only 3 questions where changed to be:
1) Describe how CNNs work, and why they have less memory footprints.
2) Discuss 3 limitations of Deep Learning.
3) Explain the K-folds validation method. In what context is it used.