

## Milestone 2: Traditional techniques

Due date: April 30th

For the next part of your project, you need to apply the traditional techniques (not Neural Networks) to the data that you prepared in the first part. This part may depend on the specifics of your project. Please use common sense, and if you are not sure, please contact me or your TA.

Depending on your project, you may need to

- Train and estimator for classification/regression towards the task of your project.
- Evaluate your model.
  - Find the appropriate metric and justify why that is the right measure of evaluation.
  - In case of classification, in addition to any other metrics you use, the confusion matrix should be included.
  - Include a discussion on the evaluation of the model, how the model is performing and why you think that it.
- Fine tune the model.
  - Change the complexity of the model and use the validation curve to find the optimal value.
  - Use learning curve and access your model and the amount of data.
    - Do you have enough data?
    - Estimate the bias and variance of your estimator, is it a good model?
  - Regularize your model (if needed.)
  - According to your model, determine other hyper-parameters of the model and fine tune it.
- Try these for 5 different kind of models and make a table to compare them. The table should include your evaluation metric(s), training time and prediction time of the models.

**\*\* This document may be modified in the next few days. Please check the latest version before submission.**