## INF519 Machine Learning 2 / Homework 1

## Filtering spam messages

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Due: Before the next lab session.

Evaluation: Code submission before the next lab session

• code (in group of two or three people)

## Remark:

- Only groups of two or three people accepted. Forbidden groups of one person or larger than three people.
- No late homework will be accepted.
- No plagiarism. If plagiarism happens, both the "lender" and the "borrower" will have a zero.
- Code yourself from scratch. No homework will be considered if you solve the problem using any ML library.
- Do thoroughly all the demanded tasks.

## 1 Tasks

- 1. Divide the data in two groups: training and test examples.
- 2. Parse both the training and test examples to generate both the spam and ham data sets.
- 3. Generate a dictionary from the training data.
- 4. Extract features from both the training data and test data.
- 5. Implement the Naive Bayes from scratch, fit the respective models to the training data.
- 6. Make predictions for the test data.
- 7. Measure the spam-filtering performance for each approach through the confusion matrix.
- 8. Discuss your results.

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