INF436 Machine Learning: Lab 8
Unsupervised learning: K-means and PCA

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Evaluation: Upload your MATLAB/Octave code (in group) onto the link that corresponds to your group, available on the course campus.ece.fr site.

Due: One week after from the Lab8, till 17h.
In particular,

- Group 1 (4SII1): Due March 21st, 2017 at 17h
- Group 2 (4SII2): Due March 22nd, 2017 at 17h
- Group 3 (4SII3): Due March 24th, 2017 at 17h
- Group 4 (4SII4): Due March 22nd, 2017 at 17h
- Group 5 (4SII5): Due March 24th, 2017 at 17h

Remark: No late homework will be accepted.

Exercise for K-means

1. Generate yourself some 2D data following Gaussian distributions around four different mean values with some different variance values associated to each mean value.
2. Cluster them using the K-means algorithm using formulas seen in class.
3. Test your model with some new data.

Exercise for PCA

1. Generate yourself some data following a 2D linear model with some random noise.
2. Implement the PCA algorithm from the formulas seen in class.
3. Indicate the principal axes of the data.
4. Test your model with some new data.

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