

## EXERCISE 6

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### 1. MIXTURE OF GAUSSIANS

- (1) Define the parameters of 3 Gaussian distribution functions in two dimensions.
- (2) Generate 100 points using each of these 3 Gaussians.
- (3) Implement the EM algorithm to solve the Mixture of Gaussians problem using the artificial data you just created.
- (4) Plot the data points using one color for each Gaussian.
- (5) Include in your plot the contours of the final Gaussians estimated by your algorithm.
- (6) Prepare a report containing your final model (including parameters), and your graph.

### 2. EXERCISE SUBMISSION

- Send your report to `cetina@informatik.uni-hamburg.de` with the email title string: MLEX6 Lastname1-Lastname2-Lastname3
- Deadline: 01.09.2017
- Note: Do not forget to include your names in the report!