ECI 2017 Bayesian Models’ Answers

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# Remarks

I wrote this document in order to avoid polluting the IPython notebook and making it hard to understand.

All of the parameters for plots and experiments can be found on the first cell of the accompanying IPython notebook; plots can be regenerated by changing the parameters and running all cells again.

# Questions

1. What can you say about the obtained posterior distributions? What do they represent? How do these posterior distribution compare to the parameter estimates obtained from the EM algorithm?
2. Sample from the approximate posterior distribution and plot the GMM distributions corresponding to all the samples into a single figure. Comment on this plot. What do the individual GMM distributions represent?
3. Now average all the samples from the previous step. What can you say about the obtained average distribution? What does it represent?
4. How does the posterior predictive distribution compare to:
   1. The true training data distribution
   2. The GMM obtained using ML training (i.e. using EM algorithm)
   3. The average of GMM distributions obtained in the previous step by sampling
5. Regenerate all the plots with a larger number of training observations and comment on how they change from the previous experiments with a smaller training dataset.

# Answers

1. Asdsa
2. Asdasda
3. Asdasdas
4. Asdasdas
5. asdasda

# References

**There are no sources in the current document.**

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