Chapter THREE Generative Models

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This part corresponds to Chapter 24, 31 in UML, Chapter ? in PRML, Chapter ? in PGM, and mainly answers the following questions:

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- 2 Density estimation
- 2.1 Parametric methods
- 2.2 Non-parametric methods
- 3 Bayesian Reasoning
- 4 PAC-Bayes
- 5 Generative models
- 5.1 GMM (Gaussian mixture models)
- 5.2 HMM (Hidden Markov models)
- 5.3 v.s. discriminant models
- 5.4 Naive Bayes to linear discriminant models
- 6 Exercises and solutions

Chapter 4. Linear models, perceptron, MLP, deep learning, Generalization bounds on deep learning.