

Bayesian linear regression

Bayesian Line Fitting (Regression)

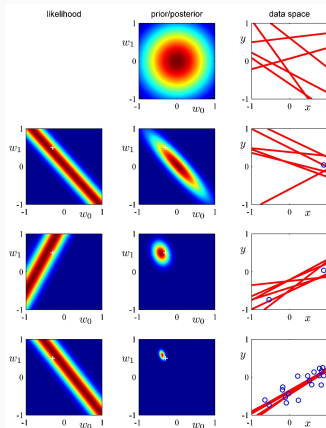


Figure 3: Bishop Fig 3.7.

Probability Distributions

Probability Distributions

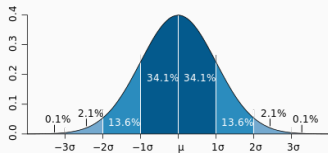


Figure 4: Wikipedia: Probability distribution.

Probability Distributions

Parametric methods

Parametric methods

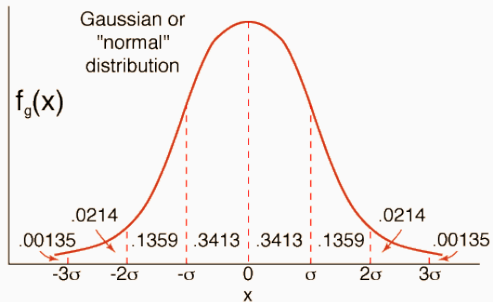


Figure 5: Gaussian.

Probability Distributions

Non-parametric methods

Non-parametric methods

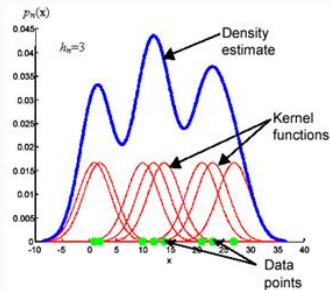


Figure 6: Parzen-window density estimation.

Non-parametric methods (Cont.)

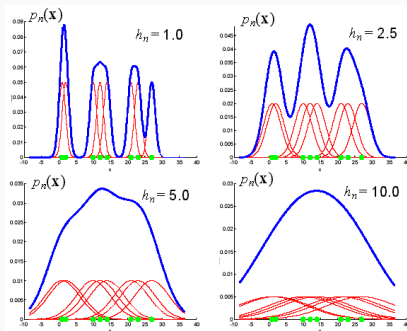


Figure 7: Parzen-window density estimation.

Summary

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- Bayes' theorem and its probability components
- h_{ML} and h_{MAP}
- Naive Bayes classifier
- Probability density estimation for Bayes' theorem:
 - Parametric (binomial and Gaussian in multiple dimensions)
 - Non-parametric (the basic idea)