06-20416 and 06-12412
(Intro to) Neural Computation

03 – Maximum Likelihood

Per Kristian Lehre

Previous lecture

- Linear regression models
  - model *linear* relationship between input and output
  - Mean square error as cost function
- Optimisation
- Derivatives
  - The chain rule
- Ordinary Least Square (OLS)
- Gradient Descent

Outline

- Probabilistic models
- Some probabilistic concepts
  - Random variable, density function, normal distribution, joint density function, empirical distribution
- Maximum likelihood
  - Likelihood function and Maximum likelihood estimate
  - Learning via log-likelihood
  - Example: linear regression revisited

Cartoon picture of ML