

Statistics and Machine Learning Reading Group previously read topics and papers.

2014/15

- Gelman (2003) A Bayesian formulation of exploratory data analysis and goodness-of-fit testing.
- Gelman et al. (2013) The garden of forking paths: why multiple comparisons can be a problem, even when there is no “fishing expedition” or “p-hacking” and the research hypothesis was posited ahead of time.
- Gelman et al. (2009) Of beauty, sex, and power: too little attention has been paid to the statistical challenges in estimating small effects.
- Rasmussen et al. (2001) Occam’s razor.
- High dimensionality. Resources include: Cherdassky & Muller (2007) Learning from Data: Concepts, Theory, and Methods 2nd ed chapter 3.1.
- Weston et al. (2003) Use of the zero norm with linear models and kernel methods.
- Haroon et al. (2003) Canonical correlation analysis: an overview with application to learning methods.
- Coates et al. (2011) An analysis of single-layer networks in unsupervised feature learning.
- Button et al. (2013) Power failure: why small sample size undermines the reliability of neuroscience.
- Piironen et al. (2015) Comparison of Bayesian predictive methods for model selection.
- Xu et al. (2014) Subgroup-based adaptive (SUBA) designs for multi-arm biomarker trials.
- Ghahramani (2015) Probabilistic machine learning and artificial intelligence.
- LeCun et al. (2015) Deep learning.
- Sunnaker et al. (2013) Approximate Bayesian computation.
- Guyon et al. (2003) An introduction to variable and feature selection.
- Wit et al. (2012) “All models are wrong...”: an introduction to model uncertainty.
- The problem with p-values. Resources include: Greenland et al. (2012) Living with P values: Resurrecting a Bayesian perspective on frequentist statistics, Goodman (1999) Toward evidence-based medical statistics, and Goodman et al. (2007) Assessing the unreliability of the medical literature: a response to “why most published research findings are false”.
- Information criteria. Resources include: Gelman et al. (2014) Bayesian Data Analysis 3rd ed chapter 7.2, Gelman et al. (2013) Understanding predictive information criteria for Bayesian models, Vehtari et al. (2012) A survey of Bayesian predictive methods for model assessment, selection and comparison section 5.5, Akaike (1974) A new look at the statistical model identification, and Spiegelhalter et al. (2002) Bayesian measures of model complexity and fit.
- Wavelet transformations. Resource include: Cherdassky & Muller (2007) Learning from Data: Concepts, Theory, and Methods 2nd ed pp298-301.
- Aharon et al. (2006) K-SVD: An algorithm for designing overcomplete dictionaries for sparse representation.
- Fernández-Delgado, M. et al. (2014) Do we need hundreds of classifiers to solve real world classification problems?
- Derivation of Kernel PCA. Resources include: Barber, D. (2007) Bayesian Reasoning and Machine Learning chapter 15.7, and Bishop, C.M. (2006) Pattern Recognition and Machine Learning chapter 12.3.
- Livni, R. et al. (2013) Vanishing Component Analysis.
- Andrieu, C. et al. (2003) An introduction to MCMC for Machine Learning.
- Rasmussen C.E., & Williams, C.K.I. (2006) Gaussian Processes for Machine Learning: chapter 4 - Covariance Functions.
- Gibbs, M., & MacKay, D.J. (1997) Efficient implementation of Gaussian processes.