

Approximate Bayesian inference for Machine Learning

Dimensionality Reduction Methods in Pattern Recognition

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D202 Seminar room, School of Engineering, 2nd Floor

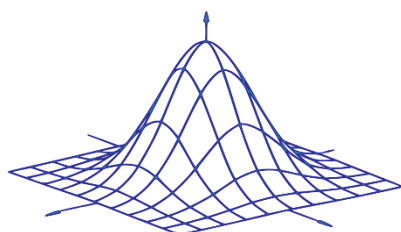
Approximate Bayesian inference for Machine Learning (Louis Ellam)

There are several advantages of using a Bayesian framework when performing machine learning tasks such as classification, clustering and regression. This talk illustrates the benefits of working in a Bayesian framework with focus towards approximate methods. We will compare the performance of the Laplace approximation, variational inference, expectation propagation (EP) and Monte Carlo (MC) integration in a clustering example and the so called clutter problem.

Dimensionality Reduction Methods in Pattern Recognition (Stela Makri)

Dimensionality reduction methods represent high-dimensional data by their low-dimensional embeddings so that the low-dimensional data can be effectively used in visualization, classification, and other machine learning tasks. In this talk, we will discuss and compare various dimensionality reduction methods. They include linear model reduction models including Principal Component Analysis (PCA) and its probabilistic variants as well as non-linear methods such as the Isomap and Generative Topographic Mapping (GTM) models.

More info: <http://www2.warwick.ac.uk/fac/sci/wcpm/seminars>



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