

what method; in the second case the intention is to establish which method is most successful given a specified training set.

Assessing ML methodologies to Extract Implicit relations from documents Challenge

1 June 2004 - 28 February 2005

The goal of the proposed challenge is to assess the current situation concerning Machine Learning (ML) algorithms for Information Extraction (IE) from documents, identifying future challenges and to foster additional research in the field. The aim is to:

- Define a methodology for fair comparison of ML algorithms for IE.
- Define a publicly available resource for evaluation that will exist and be used beyond the lifetime of the challenge; such framework will be ML oriented, not IE oriented as so far proposed in other similar evaluations.
- Perform actual tests of different algorithms in controlled situations so to understand what works and what does not and therefore identify new future challenges.

Large Hybrid Networks Challenge

1 July - 31 December 2004

Efficient approximate inference in large Hybrid Networks (graphical models with discrete and continuous variables) is one of the major unsolved problems in machine learning, and insight into good solutions would be beneficial in advancing the application of sophisticated machine learning to a wide range of real-world problems.

Such research would benefit potentially applications in Speech Recognition, Visual Object Tracking and Machine Vision, Robotics, Music Scene Analysis, Analysis of complex Times series, understanding and modelling complex computer networks, Condition monitoring, and other complex phenomena.

This theory challenge specifically addresses a central component area of PASCAL, namely Bayesian Statistics and statistical modelling, and is also related to the other central areas of Computational Learning, Statistical Physics and Optimisation techniques.

One aim of this challenge is to bring together leading researchers in graphical models and related areas to develop and improve on existing methods for tackling the fundamental intractability in HNs. We do not believe that there will necessarily emerge a single best approach, although we would expect that successes in one application area should be transferable to related areas. Many leading machine learning researches are currently working on applications that involve HNs, and we invite participants to suggest their own applications. Ideally, this would be in the form of a dataset along the lines of PASCAL.

Evaluating Predictive Uncertainty Challenge

1 September - 12 December 2004

The goal of this challenge is to evaluate probabilistic methods for regression and for classification problems. A number of

regression classification tasks are proposed. Training data (input-output pairs) are given, and the contestants are asked to predict the outputs associated to a set of validation and test inputs. These predictions are probabilistic and take the form of predictive distributions. The performance of the competing algorithms will be evaluated both with traditional losses that only take into account "point predictions" and with losses that evaluate the quality of the probabilistic predictions.



