

Empirical evaluation of Graph Based Semi Supervised Learning

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• Project Description

The purpose of this project is to explore the area of Semi Supervised Learning and build Machine Learning Models that make use of unlabelled Data. Semi-supervised learning falls between unsupervised learning (without any labeled training data) and supervised learning (with completely labeled training data). Unlabeled data, when used in conjunction with a small amount of labeled data, can produce considerable improvement in learning accuracy.

In this project I will be focussing on Graph Based Semi Supervised Learning. Graph-based methods for semi-supervised learning use a graph representation of the data, with a node for each labeled and unlabeled example. The graph may be constructed using domain knowledge or similarity of examples. I will be comparing different methods to construct the graph and try different optimization functions such as harmonic functions and manifold regularization. Then I will try and compare my results with other semi supervised techniques such as EM and Transductive SVM.

References

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