

P001 ポスターのタイトル

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対象分野

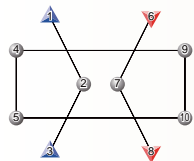
いわゆる機械学習, テータマイニング, 統計科学, 統計物理学, 情報理論, 計算機科学, サービス科学など広い意味で機械学習に関する理論および応用研究.

注意事項

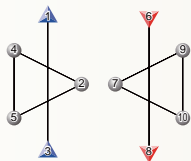
デザインは自由.

1ページに, ポスター番号, タイトル, 著者名を入れること.

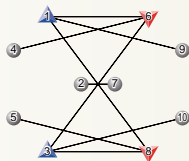
実験結果



(a) A_1 and y



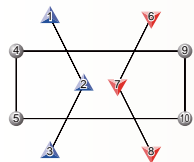
(b) A_2 and y



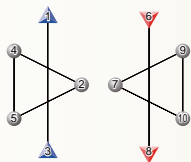
(c) A_3 and y

Given three networks A_1 , A_2 , and A_3 .

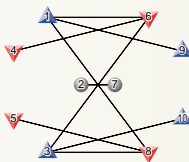
- ▲ $y_i = +1$ Positive node
- ▼ $y_i = -1$ Negative node
- $y_i = 0$ Unknown node to be classified



(d) A_1 and $\text{sign}(\mathbf{f})$



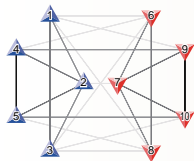
(e) A_2 and $\text{sign}(\mathbf{f})$



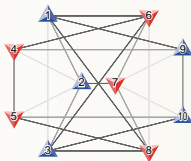
(f) A_3 and $\text{sign}(\mathbf{f})$

Label propagation on each network

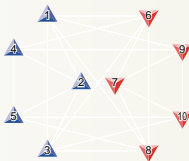
For A_1 , nodes 2 and 7 are correctly predicted, but nodes 4, 5, 9, 10 can not be predicted because the four have no path to any labeled nodes. For A_2 , no unlabeled nodes can be classified because of the same reason. For A_3 , nodes 4, 5, 9, 10 are classified, but the predictions are wrong due to the irrelevant edges.



(g) Proposed



(h) TSS



(i) True Labels

Label propagation on multiple networks

The shade of the edges represents the weights u_{ijk} .
 (g) The result of Proposed algorithm. The weight of the third network u_{i3} are automatically determined to be small. As a result, the labels of all the nodes are correctly predicted.
 (h) The result of TSS algorithm. TSS assigned a large weight to A_3 , which caused poor predictions.

文献

Tsuyoshi Kato, Hisashi Kashima, and Masashi Sugiyama:
 Robust Label Propagation on Multiple Networks,
 IEEE Trans on Neural Networks, Vol.20, No.1, pp.35-44, 2008.