Complexity of concept classes induced by discrete Markov networks and Bayesian networks

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PII: S0031-3203(18)30160-2
DOI: 10.1016/j.patcog.2018.04.026
Reference: PR 6540

To appear in: *Pattern Recognition*

Received date: 1 January 2017
Revised date: 5 March 2018
Accepted date: 26 April 2018

Please cite this article as: Benchong Li, Youlong Yang, Complexity of concept classes induced by discrete Markov networks and Bayesian networks, *Pattern Recognition* (2018), doi: 10.1016/j.patcog.2018.04.026

Highlights

- We show that VC dimension, Euclidean dimension and dimension of the toric ideal corresponding to a nontrivial discrete MN are identical.
- One can compute VC dimension of the concept class induced by a discrete MN in terms of a computer algebra system directly based on our results.
- For a general BN, we show that dimension of the corresponding toric ideal offers an upper bound of Euclidean dimension.