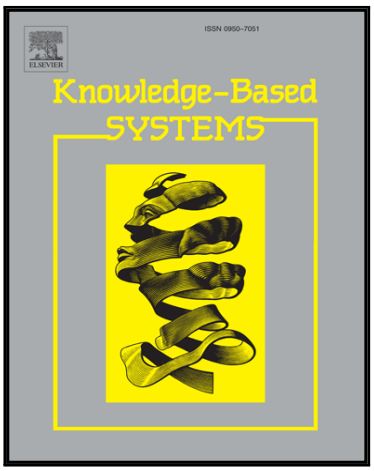

Dimension Reduction based on a Penalized Kernel Support Vector Machine Model

He Jiang, Yao Dong

PII: S0950-7051(17)30460-4
DOI: 10.1016/j.knosys.2017.09.041
Reference: KNOSYS 4062

To appear in: *Knowledge-Based Systems*

Received date: 27 August 2016
Revised date: 19 July 2017
Accepted date: 30 September 2017

Please cite this article as: He Jiang, Yao Dong, Dimension Reduction based on a Penalized Kernel Support Vector Machine Model, *Knowledge-Based Systems* (2017), doi: 10.1016/j.knosys.2017.09.041

Highlights

- Penalized Kernel Support Vector machines (PKSVM) model combined with Support Vector Information Criterion (SVMIC) is proposed.
- We reformulate the PKSVM model as a linear-in-the-parameters problem.
- We derive a PKSVM+SVMIC algorithm which is easy to implement and computational efficient.
- Both 10-fold Cross Validation and Support Vector Information Criterion are utilized to optimize the model parameters.
- The experiment reveals that our developed models get better performance.