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Dimension Reduction based on a Penalized Kernel Support Vector Machine Model

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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 computationally 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.

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