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Analysing Bipartite Networks With Two-Step Kernel Ridge Regression: The R Package xnet

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Abstract

This paper presents the R package **xnet** for cross-network analysis of bipartite networks, using two-step kernel ridge regression. It uses the crossvalidation shortcuts proposed by Stock, Airola, Pahikkala, Waegeman, and De Baets (2018) to allow for computationally efficient evaluation of the models based on a variety of leave-one-out methods. The package provides functions for easy tuning, fitting and evaluation of two-step kernel ridge regression in the context of cross-network analysis. We illustrate the use of the **xnet** package with datasets from different areas of research.

Keywords: keywords, not capitalized, R.

1. Introduction

This template demonstrates some of the basic latex you'll need to know to create a JSS article.

1.1. Code formatting

Don't use markdown, instead use the more precise latex commands:

- Java
- **plyr**
- `print("abc")`

2. R code

Can be inserted in regular R markdown blocks.

```
R> x <- 1:10
R> x
```

```
 [1]  1  2  3  4  5  6  7  8  9 10
```

References

Stock M, Airola A, Pahikkala T, Waegeman W, De Baets B (2018). "Algebraic shortcuts for leave-one-out cross-validation in supervised network inference." *Briefings in Bioinformatics*. doi:10.1093/bib/bby095.

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