

Pathway-Regularized Matrix Factorization

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DOI: [10.21105/joss.0XXXX](https://doi.org/10.21105/joss.0XXXX)

Software

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Summary

Pathway-Regularized Matrix Factorization (PRMF) is an extension of non-negative matrix factorization for high-throughput biological data. It uses graph structures from biological pathways to constrain the factorization.

Editor: [Editor Name](#) ↗

Submitted: 01 January 1900

Published: 01 January 3030

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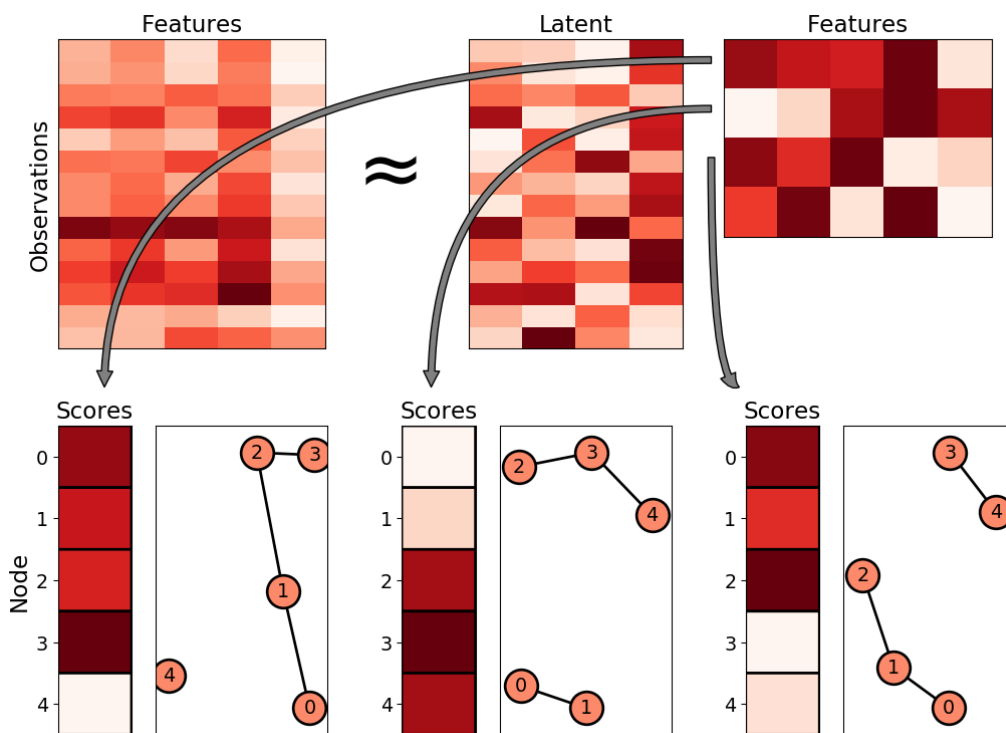


Figure 1: Pathway-Regularized Matrix Factorization overview.

Related work: - Review (Stein-O'Brien et al., 2018) - pyNBS (Huang, Jia, Carlin, & Ideker, 2018) - PLIER (Mao, Zaslavsky, Hartmann, Sealfon, & Chikina, 2019)

PRMF name disambiguation: - Probabilistic relational matrix factorization (Liu, Zhao, Liu, Wu, & Li, 2016) - Probabilistic robust matrix factorization (Wang, Yao, Wang, & Yeung, 2012)

Mathematics

Single dollars (\$) are required for inline mathematics e.g. $f(x) = e^{\pi/x}$

Double dollars make self-standing equations:

$$\Theta(x) = \begin{cases} 0 & \text{if } x < 0 \\ 1 & \text{else} \end{cases}$$

Citations

Citations to entries in paper.bib should be in [rMarkdown](#) format.

For a quick reference, the following citation commands can be used: - @author:2001 -> "Author et al. (2001)" - [@author:2001] -> "(Author et al., 2001)" - [@author1:2001; @author2:2001] -> "(Author1 et al., 2001; Author2 et al., 2002)"

Acknowledgements

Add funding and individual acknowledgements

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