NiMARE: Neuroimaging Meta-Analysis



Salo T, Yarkoni T, Kent JD, Gorgolewski KJ, Glerean E, Bottenhorn KL, Bilgel M, Wright J, Reeders P, Nielson DN, Nichols TE, Riedel MC, Sutherland MT, and Laird AR





Motivation

- First-order fMRI research is subject to low signal-to-noise, low power, and methodological flexibility.
- Meta-analysis alleviates this issue.
- Meta-analytic databases make large-scale meta-analysis possible.
- Meta-analytic algorithms have been extended for a range of interesting derivative analyses.
- The problem: Meta-analytic methods are spread out across a range of UIs and languages. Many never even make it from the paper to a useable implementation.
- The solution: An open-source, collaboratively developed, Python package with a standardized interface and extensive documentation.

Getting involved

We welcome new contributors!

If you know Python or are interested in neuroimaging meta-analysis, check out the contributing guidelines on the project website.



Objectives

- 1. A command line interface for common workflows, with citable write-ups of the methods used!
- 2. Interoperability with existing databases like BrainMap, Neurosynth, and NeuroVault.
- 3. Methods for database extraction, automated, annotation, meta-analysis, parcellation, and functional decoding.

Position within the meta-analytic ecosystem

