

HDBIG-SCCA-NC Documentation

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1. Introduction

Recent advances in brain imaging and high throughput genotyping and sequencing techniques enable new approaches to study the influence of genetic variation on brain structure and function. HDBIG is a collection of software tools for high dimensional brain imaging genomics. These tools are designed to perform comprehensive joint analysis of heterogeneous imaging genomics data. HDBIG-SCCA-NC is an HDBIG toolkit focusing on Sparse Canonical Correlation Analysis (SCCA). The current version includes matlab implementation of the SCCA Model with a Generic Non-convex Penalty. It can be applied to examine the association between genetic variations and imaging phenotypes. See below for the relevant paper.

- Du L, Liu K, Yao X, Yan J, Risacher SL, Han J, Guo L, Saykin AJ, Shen L, for the ADNI. (2017) Pattern discovery in brain imaging genetics via SCCA modeling with a generic non-convex penalty. Scientific Reports, 2017 Oct 25;7(1):14052. doi: 10.1038/s41598-017-13930-y.

2. License

HDBIG-SCCA-NC uses [GNU General Public License \(GPL\)](#). The license description is included in the software package. Please review and accept the license before installing HDBIG-SCCA-NC via any source.

3. Download

Software

- Available at <http://www.iu.edu/~hdbig/SCCA-NC/>

Documentation

- HTML: <http://www.iu.edu/~hdbig/SCCA-NC/HDBIG-SCCA-NC-v1.0.0.html>
- PDF: <http://www.iu.edu/~hdbig/SCCA-NC/HDBIG-SCCA-NC-v1.0.0.pdf>

4. Folder Structure and Demo Examples

The package “HDBIG-SCCA-NC-v1.0.0.zip” consists of two subfolders.

- 01_software: Matlab scripts and test data
- 99_license: The license description.