

HDBIG-SCCA-TLP 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-TLP is an HDBIG toolkit focusing on Sparse Canonical Correlation Analysis (SCCA). The current version includes matlab implementation of the SCCA Model with a Truncated L1-norm 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, Zhang T, Yao X, Yan J, Risacher SL, Han J, Guo L, Saykin AJ, Shen L, for the Alzheimer's Disease Neuroimaging Initiative. (2017) A novel SCCA approach via truncated l1-norm and its application to brain imaging genetics. *Bioinformatics*, 2017 Sep 18. doi: 10.1093/bioinformatics/btx594. [Epub ahead of print]

2. License

HDBIG-SCCA-TLP 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-TLP via any source.

3. Download

Software

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

Documentation

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

4. Folder Structure and Demo Examples

The package "HDBIG-SCCA-TLP-v1.0.0.zip" consists of two subfolders.

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