

Resource Summary Report

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Heterogeneity through Discriminative Analysis

RRID:SCR_021958

Type: Tool

Proper Citation

Heterogeneity through Discriminative Analysis (RRID:SCR_021958)

Resource Information

URL: <https://github.com/evarol/HYDRA>

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Description: Software tool as novel non-linear learning algorithm for simultaneous binary classification and subtype identification. Can handle imaging and non-imaging data and can find applications in exploratory analyses other than clustering of brain images. Software performs clustering of heterogenous disease patterns within patient group.

Synonyms: HYDRA

Resource Type: software resource, software application, data analysis software, data processing software

Defining Citation: [PMID:26923371](#)

Keywords: simultaneous binary classification, subtype identification, brain images clustering, heterogenous disease patterns clustering

Funding: NIA R01 AG014971

Resource Name: Heterogeneity through Discriminative Analysis

Resource ID: SCR_021958

License: GNU GPL

Record Creation Time: 20220421T050137+0000

Record Last Update: 20260808T190222+0000

Ratings and Alerts

No rating or validation information has been found for Heterogeneity through Discriminative Analysis.

No alerts have been found for Heterogeneity through Discriminative Analysis.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 15 mentions in open access literature.

Listed below are recent publications. The full list is available at [SPARC SAWG](#) .

Pan N, et al. (2026) Mapping ADHD Heterogeneity and Biotypes by Topological Deviations in Morphometric Similarity Networks. JAMA psychiatry, 83(5), 478.

Boquet-Pujadas A, et al. (2025) MUTATE: a human genetic atlas of multiorgan artificial intelligence endophenotypes using genome-wide association summary statistics. Briefings in bioinformatics, 26(2).

Pan N, et al. (2025) Mapping ADHD Heterogeneity and Biotypes through Topological Deviations in Morphometric Similarity Networks. medRxiv : the preprint server for health sciences.

Wu P, et al. (2025) Neurobiological subtypes of adolescent depression: a multimodal integration of morphometric similarity network and spatial transcriptomics. Molecular psychiatry, 30(11), 5448.

Zhou H, et al. (2025) Analysis of Two Neuroanatomical Subtypes of Parkinson's Disease and Their Motor Progression Based on Semi-Supervised Machine Learning. CNS neuroscience & therapeutics, 31(2), e70277.

Xiao W, et al. (2025) Neuroanatomical dimensions in major depression linked to cognition, adverse life events, self-harm, metabolomics and genetics. Communications medicine, 5(1), 502.

Chen Y, et al. (2025) Distinct neuroimaging subtypes of ADHD among adolescents based on semi-supervised learning. Translational psychiatry, 15(1), 476.

Wu S, et al. (2025) Two Neuroanatomical Subtypes in Fibromyalgia Patients: Distinct Morphological Patterns and Treatment Outcomes. CNS neuroscience & therapeutics, 31(7), e70500.

Zou T, et al. (2025) Distinct cortical morphometric inverse divergence changes in Parkinson's disease correlate with transcriptional expression patterns. NeuroImage. Clinical, 48, 103916.

Pecci-Terroba C, et al. (2025) Subgrouping autism and ADHD based on structural MRI population modelling centiles. *Molecular autism*, 16(1), 33.

Wen J, et al. (2024) Dimensional Neuroimaging Endophenotypes: Neurobiological Representations of Disease Heterogeneity Through Machine Learning. *ArXiv*.

Ge R, et al. (2023) Neuroimaging profiling identifies distinct brain maturational subtypes of youth with mood and anxiety disorders. *Molecular psychiatry*, 28(3), 1072.

Dwyer DB, et al. (2023) Psychosis brain subtypes validated in first-episode cohorts and related to illness remission: results from the PHENOM consortium. *Molecular psychiatry*, 28(5), 2008.

Haas SS, et al. (2022) Accelerated Global and Local Brain Aging Differentiate Cognitively Impaired From Cognitively Spared Patients With Schizophrenia. *Frontiers in psychiatry*, 13, 913470.

Kaczurkin AN, et al. (2020) Neurostructural Heterogeneity in Youths With Internalizing Symptoms. *Biological psychiatry*, 87(5), 473.