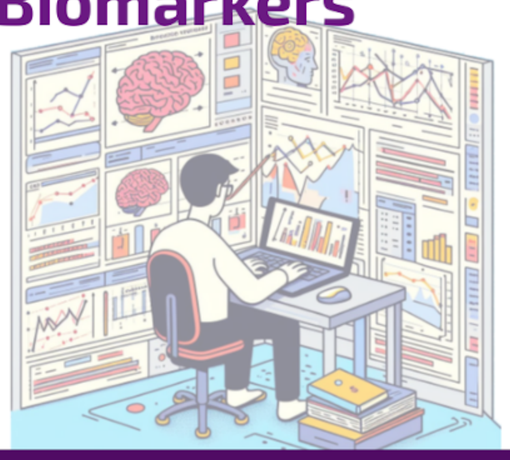
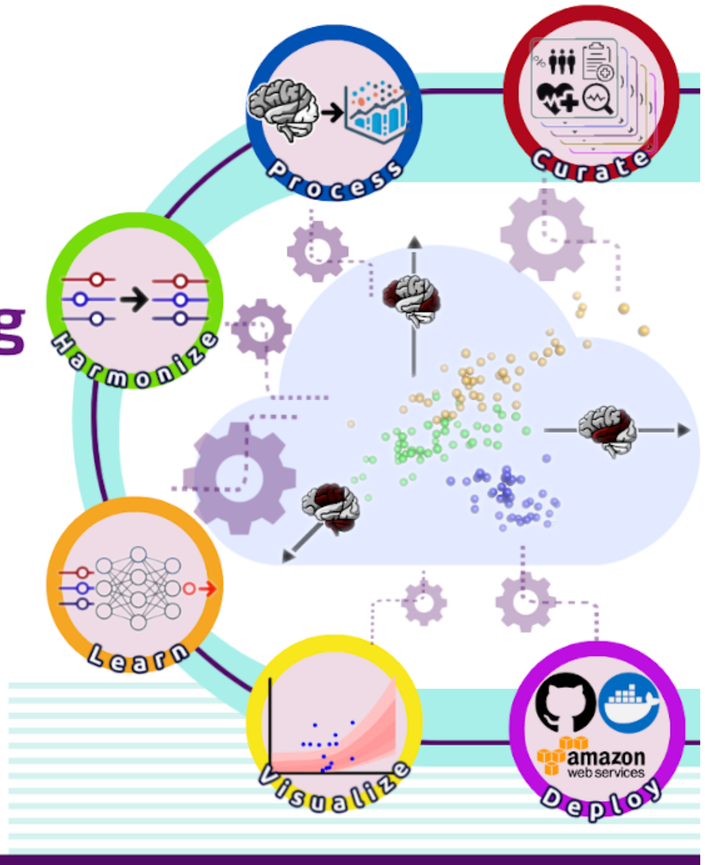
NiChart

Neuro Imaging Chart of AI-based Imaging Biomarkers





A framework to:

- Process multi-modal MRI images
- Harmonize to reference data
- Apply machine learning models
- Derive individualized biomarkers

"NeuroImaging Chart Dimensions"

NiChart aims to facilitate large-scale neuroimaging research and the wider use of advanced neuroimage analysis methods by non-experts

User-friendly web application hosted in the AWS cloud enables rapid processing of single scans and large image datasets

Data harmonization and pre-trained machine learning models provide imaging biomarkers (NiChart dimensions) that capture brain changes due to aging and disease

Users can use visualization tools to locate an individual's position within NiChart space in comparison to reference distributions

Participating Labs

- **AIBIL-UPenn**
  Artificial Intelligence in Biomedical Imaging Laboratory
- **LINC-UPenn**
  Lifespan Informatics & Neuroimaging Center
- **MLBD-UPenn**
  Machine Learning for Biomedical Data Analysis
- **PennSIVE-UPenn**
  Penn Statistics in Imaging and Visualization Endeavor

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Grants - Support

The Neuroimaging Brain Chart Software Suite
1U24NS130411-01
National Institutes of Health / National Institute of Neurological Disorders and Stroke

https://aibil.med.upenn.edu/software/#nichart

https://github.com/CBICA/NiChart_Project

https://twitter.com/NiChart_AIBIL