

Resource Summary Report

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LONI Visualization Tool

RRID:SCR_000765

Type: Tool

Proper Citation

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Resource Information

URL: <http://www.loni.usc.edu/Software/LOVE>

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Description: A versatile 1D, 2D and 3D data viewer geared for cross-platform visualization of stereotactic brain data. It is a 3-D viewer that allows volumetric data display and manipulation of axial, sagittal and coronal views. It reads Analyze, Raw-binary and NetCDF volumetric data, as well as, Multi-Contour Files (MCF), LWO/LWS surfaces, atlas hierarchical brain-region labelings (Brain Trees). It is a portable Java-based software, which only requires a Java interpreter and a 64 MB of RAM memory to run on any computer architecture. LONI_Viz allows the user to interactively overlay and browse through several data volumes, zoom in and out in the axial, sagittal and coronal views, and reports the intensities and the stereo-tactic voxel and world coordinates of the data. Expert users can use LONI_Viz to delineate structures of interest, e.g., sulcal curves, on the 3 cardinal projections of the data. These curves then may be use to reconstruct surfaces representing the topological boundaries of cortical and sub-cortical regions of interest. The 3D features of the package include a SurfaceViewer and a full real-time VolumeRenderer. These allow the user to view the relative positions of different anatomical or functional regions which are not co-planar in any of the axial, sagittal or coronal 2D projection planes. The interactive part of LONI_Viz features a region drawing module used for manual delineation of regions of interest. A series of 2D contours describing the boundary of a region in projection planes (axial, sagittal or coronal) could be used to reconstruct the surface-representation of the 3D outer shell of the region. The latter could then be resliced in directions complementary to the drawing-direction and these complementary contours could be loaded in all tree cardinal views. In addition the surface object could be displayed using the SurfaceViewer. A pre-loading data crop and sub-sampling module allows the user to load and view practically data of any size. This is especially important when viewing cryotome, histological or stained data-sets which may reach 1GB (109 bytes) in size. The user could overlay several pre-registered volumes, change intensity colors and ranges and the inter-volume opacities to visually inspect similarities and differences between the different subjects/modalities. Several image-processing aids provide histogram plotting, image-smoothing, etc. Specific Features: *

Region description DataBase * Molecuro-genetic database * Brain anatomical data viewer * BrainMapper tool * Surface (LightWave objects/scenes) and Volume rendering tools * Interactive Contour Drawing tool Implementation Issues: * Applet vs. Application - the software is available as both an applet and a standalone application. The former could be used to browse data from within the LONI database, however, it imposes restrictions on file-size, Internet connection and network-bandwidth and client/server file access. The later requires a local install and configuration of the LONI_Viz software * Extendable object-oriented code (Java), computer architecture independent * Complete online software documentation is available at http://www.loni.ucla.edu/LONI_Viz and a Java-Class documentation is available at http://www.loni.ucla.edu/~dinov/LONI_Vis.dir/doc/LONI_Viz_Java_Docs.html

Abbreviations: LONI Viz, LONI_Viz, LOVE

Synonyms: LONI Visualization Environment, LONI Viz environment, LOVE

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

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Keywords: brain, atlas, visualization, gene mapping, atlas application, magnetic resonance, surface analysis

Related Condition: Aging

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Availability: Free, Available for download, Freely available

Resource Name: LONI Visualization Tool

Resource ID: SCR_000765

Alternate IDs: nif-0000-23313

Alternate URLs: http://www.nitrc.org/projects/incf_loni-viz

Old URLs: <http://www.loni.ucla.edu/Software/LOVE>

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No rating or validation information has been found for LONI Visualization Tool.

No alerts have been found for LONI Visualization Tool.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We have not found any literature mentions for this resource.