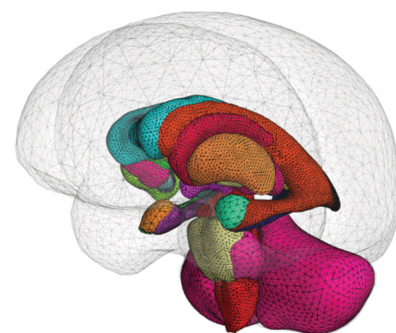


Automating the process of identifying, labeling, and quantifying the volume and shape of brain structures visible in MRI images

ClearPoint Maestro™ Brain Model



ClearPoint Maestro™ Brain Model

The ClearPoint Maestro™ Brain Model is an anatomical segmentation analysis tool that has been developed with ClearPoint Neuro's partner, Philips.

The software is intended to automate the process of identifying, labelling, and quantifying the volume and shape of brain structures visible in MRI images. The unique methodology of the ClearPoint Maestro™ Brain Model combines deformable surfaces with active shape models and machine learning.



- Trained on T1-weighted MRI (3DTFE, MPRAGE, FSPGR)
- Approved on Philips, Siemens, GE
- 1.5T and 3T

- Identifies and labels brain regions
- Defines boundaries of brain regions with shape detection
- Parcellates cerebral hemispheres into tissue types

- Quantifies volumes of brain regions
- Estimates shape boundaries of brain regions

- Report: Volumes (cm³) and charts with normative values
- Mesh: Segmentation results saved as triangular meshes
- DICOM: Segmentation saved as bitmask in DICOM format



Automated identification for brain regions of interest



Establish correspondence across different subjects



Compatible with Philips, Siemens, and GE 1.5T/3T MRI Scanners

Brain Structure	Volume(cm ³)
brainstem	13.96
cerebellum gray matter	149.84
cerebellum white matter	36.69
left amygdala	1.17
left caudate nucleus and accumbens	5.33
left globus pallidus	2.09
left cortical gray matter	340.61
left hippocampus	4.62
left lateral ventricle	5.25
left lateral ventricle anterior horn	8.34
left lateral ventricle inferior horn	1.13
left lateral ventricle posterior horn	0.53
left putamen	6.17
left thalamus	9.41
left white matter	303.09
pons	11.56
right amygdala	1.32
right caudate nucleus and accumbens	5.32
right globus pallidus	2.04
right cortical gray matter	328.9
right hippocampus	4.96
right lateral ventricle	4.55
right lateral ventricle anterior horn	7.42
right lateral ventricle inferior horn	1.23
right lateral ventricle posterior horn	0.29
right putamen	6.21

➤➤➤ Estimate therapy coverage and anatomical safety zones

➤➤➤ Identify patient-specific volumes of interest

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