

# Resource Summary Report

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## AutoSeg

RRID:SCR\_009438

Type: Tool

### Proper Citation

AutoSeg (RRID:SCR\_009438)

### Resource Information

**URL:** <http://www.nitrc.org/projects/autoseg/>

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**Description:** A novel C++ based application developed at UNC-Chapel Hill that performs automatic brain tissue classification and structural segmentation. AutoSeg is designed for use with human and non-human primate pediatric, adolescent and adult data. AutoSeg uses a BatchMake pipeline script that includes the main steps of the framework entailing N4 bias field correction, rigid registration to a common coordinate image, tissue segmentation, skull-stripping, intensity rescaling, atlas-based registration, subcortical segmentation and lobar parcellation, regional cortical thickness and intensity statistics. AutoSeg allows efficient batch processing and grid computing to process large datasets and provides quality control visualizations via Slicer3 MRML scenes.

**Abbreviations:** AutoSeg

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

**Keywords:** analyze, c++, expectation minimization, image-to-image, image-to-template, labeling, linux, macos, microsoft, magnetic resonance, nonlinear warp, nrrd, posix/unix-like, region of interest, registration, resampling, segmentation, spatial transformation, spline interpolation, volumetric analysis, warping, win32 (ms windows), windows, workflow, pediatric, adolescent, adult, young

**Availability:** BSD License

**Resource Name:** AutoSeg

**Resource ID:** SCR\_009438

**Alternate IDs:** nlx\_155582

**Record Creation Time:** 20220129T080252+0000

**Record Last Update:** 20260905T133045+0000

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## Ratings and Alerts

No rating or validation information has been found for AutoSeg.

No alerts have been found for AutoSeg.

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## Data and Source Information

**Source:** [SciCrunch Registry](#)

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## Usage and Citation Metrics

We found 24 mentions in open access literature.

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

Du G, et al. (2026) HFE genotype influences substantia nigra iron accumulation and Parkinson's disease progression. medRxiv : the preprint server for health sciences.

Nishio M, et al. (2025) Humans have a longer period of cortical maturation across depth and hierarchy than macaques. PLoS biology, 23(9), e3003378.

M??vik L, et al. (2025) A semi-automated workflow for cohort-wise preparation of radiotherapy data for dose-response modeling, including autosegmentation of organs at risk. Journal of applied clinical medical physics, 26(7), e70152.

Alex AM, et al. (2024) A global multicohort study to map subcortical brain development and cognition in infancy and early childhood. Nature neuroscience, 27(1), 176.

Burrows CA, et al. (2024) Associations between early trajectories of amygdala development and later school-age anxiety in two longitudinal samples. Developmental cognitive neuroscience, 65, 101333.

St John T, et al. (2023) Association of Sex With Neurobehavioral Markers of Executive Function in 2-Year-Olds at High and Low Likelihood of Autism. JAMA network open, 6(5), e2311543.

Kovacs-Balint ZA, et al. (2023) The role of puberty on physical and brain development: A longitudinal study in male Rhesus Macaques. Developmental cognitive neuroscience, 60, 101237.

Zhong T, et al. (2022) Longitudinal brain atlases of early developing cynomolgus macaques from birth to 48 months of age. NeuroImage, 247, 118799.

Kovacs-Balint ZA, et al. (2021) Structural development of cortical lobes during the first 6 months of life in infant macaques. Developmental cognitive neuroscience, 48, 100906.

Knickmeyer RC, et al. (2021) Impact of gonadectomy on maturational changes in brain volume in adolescent macaques. *Psychoneuroendocrinology*, 124, 105068.

Carlson AL, et al. (2021) Infant gut microbiome composition is associated with non-social fear behavior in a pilot study. *Nature communications*, 12(1), 3294.

Hwang M, et al. (2021) A Simple Method for Automatic 3D Reconstruction of Coronary Arteries From X-Ray Angiography. *Frontiers in physiology*, 12, 724216.

Wagner D, et al. (2020) Lexical-semantic search related to side of onset and putamen volume in Parkinson's disease. *Brain and language*, 209, 104841.

Mostapha M, et al. (2020) A Novel Method for High-Dimensional Anatomical Mapping of Extra-Axial Cerebrospinal Fluid: Application to the Infant Brain. *Frontiers in neuroscience*, 14, 561556.

Koenig MR, et al. (2020) Quantitative definition of neurobehavior, vision, hearing and brain volumes in macaques congenitally exposed to Zika virus. *PloS one*, 15(10), e0235877.

Wang EW, et al. (2019) Multimodal MRI evaluation of parkinsonian limbic pathologies. *Neurobiology of aging*, 76, 194.

Li Y, et al. (2019) Anomalies in uncinate fasciculus development and social defects in preschoolers with autism spectrum disorder. *BMC psychiatry*, 19(1), 399.

Hazlett HC, et al. (2017) Early brain development in infants at high risk for autism spectrum disorder. *Nature*, 542(7641), 348.

Visser E, et al. (2016) Automatic segmentation of the striatum and globus pallidus using MIST: Multimodal Image Segmentation Tool. *NeuroImage*, 125, 479.

Liu H, et al. (2016) Folded concave penalized learning in identifying multimodal MRI marker for Parkinson's disease. *Journal of neuroscience methods*, 268, 1.