Resource Summary Report

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STAPLE

RRID:SCR_002590
Type: Tool

Proper Citation

STAPLE (RRID:SCR_002590)

Resource Information

URL: http://www.crl.med.harvard.edu/software/STAPLE/index.php

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Description: An algorithm for the Simultaneous Truth and Performance Level Estimation, which estimates a reference standard and segmentation generator performance from a set of segmentations. It has been widely applied for the validation of image segmentation algorithms, and to compare the performance of different algorithms and experts. It has also found application in the identification of a consensus segmentation, by combination of the output of a group of segmentation algorithms, and for segmentation by registration and template fusion., THIS RESOURCE IS NO LONGER IN SERVICE. Documented on September 16,2025.

Abbreviations: STAPLE

Synonyms: Simultaneous Truth and Performance Level Estimation, STAPLE - Simultaneous Truth and Performance Level Estimation

Resource Type: software application, software resource

Defining Citation: PMID:15250643

Keywords: algorithm, analyze, c++, dicom, gifti, image display, linux, macos, microsoft, magnetic resonance, nifti, nrrd, posix/unix-like, quantification, rendering, segmentation, surface rendering, visualization, win32 (ms windows), windows, standard

Availability: THIS RESOURCE IS NO LONGER IN SERVICE

Resource Name: STAPLE

Resource ID: SCR_002590

Alternate IDs: nlx_155994

Alternate URLs: http://www.nitrc.org/projects/staple

Record Creation Time: 20220129T080214+0000

Record Last Update: 20260727T040316+0000

Ratings and Alerts

No rating or validation information has been found for STAPLE.

No alerts have been found for STAPLE.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 142 mentions in open access literature.

Listed below are recent publications. The full list is available at SPARC SAWG .

Fiore G, et al. (2025) Cortico-hippocampal networks underpin verbal memory encoding in temporal lobe epilepsy. Brain communications, 7(2), fcaf067.

Tie X, et al. (2025) Deep Learning for Longitudinal Gross Tumor Volume Segmentation in MRI-Guided Adaptive Radiotherapy for Head and Neck Cancer. Head and Neck Tumor Segmentation for MR-Guided Applications : First MICCAI Challenge, HNTS-MRG 2024, held in conjunction with MICCAI 2024, Marrakesh, Morocco, October 17, 2024, proceedings, 15273, 99.

Guarnera F, et al. (2025) MSLesSeg: baseline and benchmarking of a new Multiple Sclerosis Lesion Segmentation dataset. Scientific data, 12(1), 920.

Mukherjee S, et al. (2025) Pancreas segmentation using AI developed on the largest CT dataset with multi-institutional validation and implications for early cancer detection. Scientific reports, 15(1), 17096.

Lenfant L, et al. (2025) Defining ground truth for prostate segmentation of transrectal ultrasound images: Inter- and intra-observer variability of manual versus semi-automatic methods. Medical physics, 52(8), e18025.

Wodzinski M, et al. (2025) Benchmark of Deep Encoder-Decoder Architectures for Head and Neck Tumor Segmentation in Magnetic Resonance Images: Contribution to the HNTSMRG Challenge. Head and Neck Tumor Segmentation for MR-Guided Applications : First MICCAI Challenge, HNTS-MRG 2024, held in conjunction with MICCAI 2024, Marrakesh, Morocco, October 17, 2024, proceedings, 15273, 204.

Saukkoriipi M, et al. (2025) Head and Neck Tumor Segmentation Using Pre-RT MRI Scans and Cascaded DualUNet. Head and Neck Tumor Segmentation for MR-Guided

Applications : First MICCAI Challenge, HNTS-MRG 2024, held in conjunction with MICCAI 2024, Marrakesh, Morocco, October 17, 2024, proceedings, 15273, 191.

Ren J, et al. (2025) Gradient Map-Assisted Head and Neck Tumor Segmentation: A Pre-RT to Mid-RT Approach in MRI-Guided Radiotherapy. Head and Neck Tumor Segmentation for MR-Guided Applications : First MICCAI Challenge, HNTS-MRG 2024, held in conjunction with MICCAI 2024, Marrakesh, Morocco, October 17, 2024, proceedings, 15273, 36.

Williams B, et al. (2025) Evaluation of therapeutic radiographer target volume contouring for magnetic resonance image guided online adaptive bladder radiotherapy. Clinical and translational radiation oncology, 54, 100994.

Thomas B, et al. (2025) Deep learning models for deriving optimised measures of fat and muscle mass from MRI. Scientific reports, 15(1), 25960.

Zhang H, et al. (2025) TOM500: A Multi-Organ Annotated Orbital MRI Dataset for Thyroid Eye Disease. Scientific data, 12(1), 60.

Ndzimbong W, et al. (2025) TRUSTED: The Paired 3D Transabdominal Ultrasound and CT Human Data for Kidney Segmentation and Registration Research. Scientific data, 12(1), 615.

Melnikova A, et al. (2025) Topology-preserving contourwise shape fusion. Scientific reports, 15(1), 10713.

LaBella D, et al. (2025) Ensemble Deep Learning Models for Automated Segmentation of Tumor and Lymph Node Volumes in Head and Neck Cancer Using Pre- and Mid-Treatment MRI: Application of Auto3DSeg and SegResNet. Head and Neck Tumor Segmentation for MR-Guided Applications : First MICCAI Challenge, HNTS-MRG 2024, held in conjunction with MICCAI 2024, Marrakesh, Morocco, October 17, 2024, proceedings, 15273, 259.

Pang EPP, et al. (2025) Multicentre evaluation of deep learning CT autosegmentation of the head and neck region for radiotherapy. NPJ digital medicine, 8(1), 312.

Chen M, et al. (2025) Interobserver variability in organ delineation on radiotherapy treatment planning for nasopharyngeal carcinoma: A dosimetric and prognostic analysis. Frontiers in oncology, 15, 1510568.

Zenk M, et al. (2025) Towards fair decentralized benchmarking of healthcare AI algorithms with the Federated Tumor Segmentation (FeTS) challenge. Nature communications, 16(1), 6274.

Calixto C, et al. (2025) A detailed spatiotemporal atlas of the white matter tracts for the fetal brain. Proceedings of the National Academy of Sciences of the United States of America, 122(1), e2410341121.

Montin E, et al. (2025) Radiomics for Precision Diagnosis of FAI: How Close Are We to Clinical Translation? A Multi-Center Validation of a Single-Center Trained Model. Journal of clinical medicine, 14(12).

Kinder S, et al. (2025) Optic Cup and Disc Segmentation of Fundus Images Using Artificial Intelligence Externally Validated With Optical Coherence Tomography Measurements. Translational vision science & technology, 14(6), 30.