Nicholas Ayache

List of Publications by Year
in descending order

Version: 2024-02-01

51 papers	8,490 citations	117625 34 h-index	206112 48 g-index
52 all docs	52 docs citations	52 times ranked	6967 citing authors

#	Article	IF	Citations
1	Diffeomorphic demons: Efficient non-parametric image registration. NeuroImage, 2009, 45, S61-S72.	4.2	1,244
2	A Riemannian Framework for Tensor Computing. International Journal of Computer Vision, 2006, 66, 41-66.	15.6	1,125
3	Log-Euclidean metrics for fast and simple calculus on diffusion tensors. Magnetic Resonance in Medicine, 2006, 56, 411-421.	3.0	913
4	Geometric Means in a Novel Vector Space Structure on Symmetric Positiveâ€Definite Matrices. SIAM Journal on Matrix Analysis and Applications, 2007, 29, 328-347.	1.4	573
5	A hybrid elastic model for real-time cutting, deformations, and force feedback for surgery training and simulation. Visual Computer, 2000, 16, 437-452.	3.5	363
6	Evaluation of Registration Methods on Thoracic CT: The EMPIRE10 Challenge. IEEE Transactions on Medical Imaging, 2011, 30, 1901-1920.	8.9	363
7	Model-Based Detection of Tubular Structures in 3D Images. Computer Vision and Image Understanding, 2000, 80, 130-171.	4.7	347
8	Spherical Demons: Fast Diffeomorphic Landmark-Free Surface Registration. IEEE Transactions on Medical Imaging, 2010, 29, 650-668.	8.9	301
9	Rigid, affine and locally affine registration of free-form surfaces. International Journal of Computer Vision, 1996, 18, 99-119.	15.6	280
10	Clinical DT-MRI Estimation, Smoothing, and Fiber Tracking With Log-Euclidean Metrics. IEEE Transactions on Medical Imaging, 2007, 26, 1472-1482.	8.9	206
11	Human Atlas of the Cardiac Fiber Architecture: Study on a Healthy Population. IEEE Transactions on Medical Imaging, 2012, 31, 1436-1447.	8.9	201
12	Iconic feature based nonrigid registration: the PASHA algorithm. Computer Vision and Image Understanding, 2003, 89, 272-298.	4.7	200
13	Non-linear anisotropic elasticity for real-time surgery simulation. Graphical Models, 2003, 65, 305-321.	2.4	190
14	Automatic detection and segmentation of evolving processes in 3D medical images: Application to multiple sclerosis. Medical Image Analysis, 2002, 6, 163-179.	11.6	163
15	iLogDemons: A Demons-Based Registration Algorithm forÂTracking Incompressible Elastic Biological Tissues. International Journal of Computer Vision, 2011, 92, 92-111.	15.6	147
16	A collaborative resource to build consensus for automated left ventricular segmentation of cardiac MR images. Medical Image Analysis, 2014, 18, 50-62.	11.6	143
17	A scheme for automatically building three-dimensional morphometric anatomical atlases: application to a skull atlas. Medical Image Analysis, 1998, 2, 37-60.	11.6	137
18	Tracking points on deformable objects using curvature information. Lecture Notes in Computer Science, 1992, , 458-466.	1.3	120

#	Article	IF	Citations
19	A Computational Framework for the Statistical Analysis of Cardiac Diffusion Tensors: Application to a Small Database of Canine Hearts. IEEE Transactions on Medical Imaging, 2007, 26, 1500-1514.	8.9	117
20	Smoothing and matching of 3-d space curves. International Journal of Computer Vision, 1994, 12, 79-104.	15.6	114
21	Toward a Comprehensive Framework for the Spatiotemporal Statistical Analysis of Longitudinal Shape Data. International Journal of Computer Vision, 2013, 103, 22-59.	15.6	106
22	A Fast and Log-Euclidean Polyaffine Framework for Locally Linear Registration. Journal of Mathematical Imaging and Vision, 2009, 33, 222-238.	1.3	93
23	Spectral Log-Demons: Diffeomorphic Image Registration with Very Large Deformations. International Journal of Computer Vision, 2014, 107, 254-271.	15.6	87
24	DT-REFinD: Diffusion Tensor Registration With Exact Finite-Strain Differential. IEEE Transactions on Medical Imaging, 2009, 28, 1914-1928.	8.9	84
25	Registration, atlas estimation and variability analysis of white matter fiber bundles modeled as currents. NeuroImage, 2011, 55, 1073-1090.	4.2	84
26	3D tomographic reconstruction of coronary arteries using a precomputed 4D motion field. Physics in Medicine and Biology, 2004, 49, 2197-2208.	3.0	77
27	Registration of 4D Cardiac CT Sequences Under Trajectory Constraints With Multichannel Diffeomorphic Demons. IEEE Transactions on Medical Imaging, 2010, 29, 1351-1368.	8.9	73
28	Inferring brain variability from diffeomorphic deformations of currents: An integrative approach. Medical Image Analysis, 2008, 12, 626-637.	11.6	72
29	Soft Tissue Modeling for Surgery Simulation. Handbook of Numerical Analysis, 2004, 12, 453-550.	1.8	71
30	Geometric Variability of the Scoliotic Spine Using Statistics on Articulated Shape Models. IEEE Transactions on Medical Imaging, 2008, 27, 557-568.	8.9	71
31	Measuring brain variability by extrapolating sparse tensor fields measured on sulcal lines. NeuroImage, 2007, 34, 639-650.	4.2	59
32	Isotropic Energies, Filters and Splines for Vector Field Regularization. Journal of Mathematical Imaging and Vision, 2004, 20, 251-265.	1.3	52
33	Landmark-Based Registration Using Features Identified Through Differential Geometry. , 2000, , 499-513.		50
34	Uniform Distribution, Distance and Expectation Problems for Geometric Features Processing. Journal of Mathematical Imaging and Vision, 1998, 9, 49-67.	1.3	46
35	Hepatic surgery simulation. Communications of the ACM, 2005, 48, 31-36.	4.5	41
36	Directional anisotropic diffusion applied to segmentation of vessels in 3D images. Lecture Notes in Computer Science, 1997, , 345-348.	1.3	34

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37	Measuring Brain Variability Via Sulcal Lines Registration: A Diffeomorphic Approach. , 2007, 10, 675-682.		29
38	Epidaure: a research project in medical image analysis, simulation, and robotics at INRIA. IEEE Transactions on Medical Imaging, 2003, 22, 1185-1201.	8.9	24
39	Spectral Demons â€“ Image Registration via Global Spectral Correspondence. Lecture Notes in Computer Science, 2012, , 30-44.	1.3	15
40	L'analyse automatique des images mÃ©dicales Ã‰tat de l'art et perspectives. Annales De L'Institut Pasteur / ActualitÃ©s, 1998, 9, 13-21.	0.1	13
41	Statistical Atlas of Human Cardiac Fibers: Comparison with Abnormal Hearts. Lecture Notes in Computer Science, 2012, , 207-213.	1.3	11
42	Towards a Statistical Atlas of Cardiac Fiber Structure. Lecture Notes in Computer Science, 2006, 9, 297-304.	1.3	11
43	Learning a Generative Motion Model From Image Sequences Based on a Latent Motion Matrix. IEEE Transactions on Medical Imaging, 2021, 40, 1405-1416.	8.9	10
44	Statistical Comparison of Cardiac Fibre Architectures. , 2007, , 413-423.		6
45	Propagation of Myocardial Fibre Architecture Uncertainty on Electromechanical Model Parameter Estimation: A Case Study. Lecture Notes in Computer Science, 2015, , 448-456.	1.3	5
46	Registration of a curve on a surface using differential properties. Lecture Notes in Computer Science, 1994, , 187-192.	1.3	4
47	4D deformation field of coronary arteries from monoplane rotational X-ray angiography. International Congress Series, 2003, 1256, 1073-1078.	0.2	4
48	4-D Tomographic Representation of Coronary Arteries from One Rotational X-Ray Sequence. Lecture Notes in Computer Science, 2003, , 416-423.	1.3	4
49	Medical image analysis and simulation. Lecture Notes in Computer Science, 1997, , 4-17.	1.3	3
50	Computational Anatomy and Computational Physiology for Medical Image Analysis. Lecture Notes in Computer Science, 2005, , 1-2.	1.3	1
51	REGION TRACKING ALGORITHMS ON LASER SCANNING DEVICES APPLIED TO CELL TRAFFIC ANALYSIS. , 2007, , .		0