Remco Duits

List of Publications by Year
in descending order

74 papers	1,844 citations	331259 21 h-index	288905 40 g-index
84 all docs	84 docs citations	84 times ranked	1071 citing authors

#	ARTICLE	IF	CITATIONS
1	Robust Retinal Vessel Segmentation via Locally Adaptive Derivative Frames in Orientation Scores. IEEE Transactions on Medical Imaging, 2016, 35, 2631-2644.	5.4	300
2	On the Axioms of Scale Space Theory. Journal of Mathematical Imaging and Vision, 2004, 20, 267-298.	0.8	97
3	A Multi-Orientation Analysis Approach to Retinal Vessel Tracking. Journal of Mathematical Imaging and Vision, 2014, 49, 583-610.	0.8	95
4	Image Analysis and Reconstruction using a Wavelet Transform Constructed from a Reducible Representation of the Euclidean Motion Group. International Journal of Computer Vision, 2007, 72, 79-102.	10.9	87
5	Left-invariant parabolic evolutions on $SE(2)$ and contour enhancement via invertible orientation scores Part I: Linear left-invariant diffusion equations on $SE(2)$. Quarterly of Applied Mathematics, 2010, 68, 255-292.	0.5	82
6	Crossing-Preserving Coherence-Enhancing Diffusion onÂInvertible Orientation Scores. International Journal of Computer Vision, 2009, 85, 253-278.	10.9	76
7	Left-Invariant Diffusions on the Space of Positions and Orientations and their Application to Crossing-Preserving Smoothing of HARDI images. International Journal of Computer Vision, 2011, 92, 231-264.	10.9	76
8	Left-invariant parabolic evolutions on $SE(2)$ and contour enhancement via invertible orientation scores Part II: Nonlinear left-invariant diffusions on invertible orientation scores. Quarterly of Applied Mathematics, 2010, 68, 293-331.	0.5	59
9	Roto-Translation Covariant Convolutional Networks for Medical Image Analysis. Lecture Notes in Computer Science, 2018, , 440-448.	1.0	59
10	Roto-translation equivariant convolutional networks: Application to histopathology image analysis. Medical Image Analysis, 2021, 68, 101849.	7.0	51
11	A PDE Approach to Data-Driven Sub-Riemannian Geodesics in SE(2). SIAM Journal on Imaging Sciences, 2015, 8, 2740-2770.	1.3	44
12	Optimal Paths for Variants of the 2D and 3D Reedsâ€"Shepp Car with Applications in Image Analysis. Journal of Mathematical Imaging and Vision, 2018, 60, 816-848.	0.8	42
13	The explicit solutions of linear left-invariant second order stochastic evolution equations on the 2D Euclidean motion group. Quarterly of Applied Mathematics, 2007, 66, 27-67.	0.5	40
14	Association Fields via Cuspless Sub-Riemannian Geodesics in SE(2). Journal of Mathematical Imaging and Vision, 2014, 49, 384-417.	0.8	39
15	Morphological and Linear Scale Spaces for Fiber Enhancement in DW-MRI. Journal of Mathematical Imaging and Vision, 2013, 46, 326-368.	0.8	33
16	Î± Scale Spaces on a Bounded Domain. Lecture Notes in Computer Science, 2003, , 494-510.	1.0	33
17	Improving Fiber Alignment in HARDI by Combining Contextual PDE Flow with Constrained Spherical Deconvolution. PLoS ONE, 2015, 10, e0138122.	1.1	28
18	Crossing-Preserving Multi-scale Vesselness. Lecture Notes in Computer Science, 2014, 17, 603-610.	1.0	27

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19	Lesion Segmentation in Ultrasound Using Semi-Pixel-Wise Cycle Generative Adversarial Nets. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2021, 18, 2555-2565.	1.9	24
20	Curve cuspless reconstructionviasub-Riemannian geometry. ESAIM - Control, Optimisation and Calculus of Variations, 2014, 20, 748-770.	0.7	23
21	Scale Spaces on Lie Groups. , 2007, , 300-312.		23
22	Brain-inspired algorithms for retinal image analysis. Machine Vision and Applications, 2016, 27, 1117-1135.	1.7	22
23	The Monogenic Scale Space on a Rectangular Domain and its Features. International Journal of Computer Vision, 2005, 64, 187-201.	10.9	21
24	Evaluating Contextual Processing in Diffusion MRI: Application to Optic Radiation Reconstruction for Epilepsy Surgery. PLoS ONE, 2014, 9, e101524.	1.1	21
25	Invertible orientation scores as an application of generalized wavelet theory. Pattern Recognition and Image Analysis, 2007, 17, 42-75.	0.6	19
26	Evolution equations on Gabor transforms and their applications. Applied and Computational Harmonic Analysis, 2013, 35, 483-526.	1.1	19
27	Numerical Approaches for Linear Left-invariant Diffusions on SE(2), their Comparison to Exact Solutions, and their Applications in Retinal Imaging. Numerical Mathematics, 2016, 9, 1-50.	0.6	18
28	Tracking of Lines in Spherical Images via Sub-Riemannian Geodesics in $$\text {SO(3)}$$ SO(3). Journal of Mathematical Imaging and Vision, 2017, 58, 239-264.	0.8	18
29	Curvature Based Biomarkers for Diabetic Retinopathy via Exponential Curve Fits in SE(2). , 0, , .		18
30	Locally Adaptive Frames in the Roto-Translation Group and Their Applications in Medical Imaging. Journal of Mathematical Imaging and Vision, 2016, 56, 367-402.	0.8	17
31	Design and Processing of Invertible Orientation Scores of 3D Images. Journal of Mathematical Imaging and Vision, 2018, 60, 1427-1458.	0.8	17
32	Template Matching via Densities on the Roto-Translation Group. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2018, 40, 452-466.	9.7	17
33	Left-invariant evolutions of wavelet transforms on the similitude group. Applied and Computational Harmonic Analysis, 2015, 39, 110-137.	1.1	16
34	Sub-Riemannian Fast Marching in SE(2). Lecture Notes in Computer Science, 2015, , 366-374.	1.0	15
35	On Sub-Riemannian Geodesics in SE(3) Whose Spatial Projections do not Have Cusps. Journal of Dynamical and Control Systems, 2016, 22, 771-805.	0.4	14
36	Stability metrics for optic radiation tractography: Towards damage prediction after resective surgery. Journal of Neuroscience Methods, 2017, 288, 34-44.	1.3	13

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37	The Monogenic Scale Space on a Bounded Domain and Its Applications. Lecture Notes in Computer Science, 2003, , 209-224.	1.0	13
38	A Linear Image Reconstruction Framework Based on Sobolev Type Inner Products. International Journal of Computer Vision, 2006, 70, 231-240.	10.9	11
39	Numerical Schemes for Linear and Non-linear Enhancement of DW-MRI. Lecture Notes in Computer Science, 2012, , 14-25.	1.0	11
40	From Stochastic Completion Fields to Tensor Voting. Lecture Notes in Computer Science, 2005, , 124-134.	1.0	11
41	ScaleSpaceViz: Î±-Scale spaces in practice. Pattern Recognition and Image Analysis, 2007, 17, 106-116.	0.6	7
42	Total Variation and Mean Curvature PDEs on the Space of Positions and Orientations. Lecture Notes in Computer Science, 2019, , 211-223.	1.0	6
43	Fourier Transform on the Homogeneous Space of 3D Positions and Orientations for Exact Solutions to Linear PDEs. Entropy, 2019, 21, 38.	1.1	6
44	Total Variation and Mean Curvature PDEs on the Homogeneous Space of Positions and Orientations. Journal of Mathematical Imaging and Vision, 2021, 63, 237-262.	0.8	6
45	Sharpening Fibers in Diffusion Weighted MRI via Erosion. Mathematics and Visualization, 2014, , 97-126.	0.4	6
46	Curvature Estimation for Enhancement of Crossing Curves. , 2007, , .		5
47	Retrieving challenging vessel connections in retinal images by line co-occurrence statistics. Biological Cybernetics, 2017, 111, 237-247.	0.6	5
48	New exact and numerical solutions of the (convectionâ€")diffusion kernels on SE(3). Differential Geometry and Its Applications, 2017, 53, 182-219.	0.2	5
49	A Linear Image Reconstruction Framework Based on Sobolev Type Inner Products. Lecture Notes in Computer Science, 2005, , 85-96.	1.0	5
50	Coarse-to-Fine Image Reconstruction Based on Weighted Differential Features and Background Gauge Fields. Lecture Notes in Computer Science, 2009, , 377-388.	1.0	5
51	Tikhonov regularization versus scale space: A new result. , 0, , .		4
52	On Î± Kernels, LÃ©vy Processes, and Natural Image Statistics. Lecture Notes in Computer Science, 2005, , 468-479.	1.0	4
53	Training of Templates for Object Recognition in Invertible Orientation Scores: Application to Optic Nerve Head Detection in Retinal Images. Lecture Notes in Computer Science, 2015, , 464-477.	1.0	4
54	Equivariant Deep Learning via Morphological and Linear Scale Space PDEs on the Space of Positions and Orientations. Lecture Notes in Computer Science, 2021, , 27-39.	1.0	4

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55	Brain Connectivity Measures via Direct Sub-Finslerian Front Propagation on the 5D Sphere Bundle of Positions and Directions. Mathematics and Visualization, 2019, , 309-321.	0.4	4
56	Optic Nerve Head Detection via Group Correlations in Multi-orientation Transforms. Lecture Notes in Computer Science, 2014, , 293-302.	1.0	4
57	Cuspless Sub-Riemannian Geodesics within the Euclidean Motion Group SE(d). Lecture Notes in Morphogenesis, 2014, , 173-215.	0.2	4
58	Towards a New Paradigm for Motion Extraction. Lecture Notes in Computer Science, 2006, , 743-754.	1.0	4
59	A variational approach to cardiac motion estimation based on covariant derivatives and multi-scale Helmholtz decomposition. Quarterly of Applied Mathematics, 2013, 71, 1-36.	0.5	3
60	Linear Image Reconstruction from a Sparse Set of α-Scale Space Features by Means of Inner Products of Sobolev Type. Lecture Notes in Computer Science, 2005, , 96-111.	1.0	3
61	Invertible Orientation Scores of 3D Images. Lecture Notes in Computer Science, 2015, , 563-575.	1.0	3
62	The Hessian of Axially Symmetric Functions on SE(3) and Application in 3D Image Analysis. Lecture Notes in Computer Science, 2017, , 643-655.	1.0	3
63	Linear Image Reconstruction by Sobolev Norms on the Bounded Domain. Lecture Notes in Computer Science, 2007, , 55-67.	1.0	3
64	Scale Spaces on the 3D Euclidean Motion Group for Enhancement of HARDI Data. Lecture Notes in Computer Science, 2009, , 820-831.	1.0	3
65	Linear Image Reconstruction by Sobolev Norms on the Bounded Domain. International Journal of Computer Vision, 2009, 84, 205-219.	10.9	2
66	A Sobolev Norm Based Distance Measure for HARDI Clustering. Lecture Notes in Computer Science, 2010, 13, 175-182.	1.0	2
67	Fiber Enhancement in Diffusion-Weighted MRI. Lecture Notes in Computer Science, 2012, , 1-13.	1.0	2
68	Sub-Riemannian geodesics in SO(3) with application to vessel tracking in spherical images of retina. Doklady Mathematics, 2017, 95, 168-171.	0.1	2
69	Recent Geometric Flows in Multi-orientation Image Processing via a Cartan Connection. , 2021, , 1-60.		2
70	A Comparison of the Deep Structure of α-Scale Spaces. Lecture Notes in Computer Science, 2005, , 234-248.	1.0	2
71	Left Invariant Evolution Equations on Gabor Transforms. Computational Imaging and Vision, 2012, , 137-158.	0.6	2
72	Optimal control for reconstruction of curves without cusps. , 2012, , .		1

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73	Holistic Image Reconstruction for Diffusion MRI. Mathematics and Visualization, 2016, , 27-39.	0.4	1
74	Differential Geometry and Orientation Analysis in Image Processing. Journal of Mathematical Imaging and Vision, 2018, 60, 763-765.	0.8	0