Roberto Cavoretto

List of Publications by Year
in descending order

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64 papers	852 citations	394421 19 h-index	526287 27 g-index
66 all docs	66 docs citations	66 times ranked	395 citing authors

#	Article	IF	Citations
1	A numerical technique based on Bâ€spline for a class of timeâ€fractional diffusion equation. Numerical Methods for Partial Differential Equations, 2023, 39, 45-64.	3.6	9
2	RBFCUB: A numerical package for near-optimal meshless cubature on general polygons. Applied Mathematics Letters, 2022, 125, 107704.	2.7	7
3	Adaptive LOOCV-based kernel methods for solving time-dependent BVPs. Applied Mathematics and Computation, 2022, 429, 127228.	2.2	0
4	On the search of the shape parameter in radial basis functions using univariate global optimization methods. Journal of Global Optimization, 2021, 79, 305-327.	1.8	51
5	Adaptive Radial Basis Function Partition of Unity Interpolation: A Bivariate Algorithm for Unstructured Data. Journal of Scientific Computing, 2021, 87, 1.	2.3	19
6	Partition of Unity Methods for Signal Processing on Graphs. Journal of Fourier Analysis and Applications, 2021, 27, 1.	1.0	11
7	Error indicators and refinement strategies for solving Poisson problems through a RBF partition of unity collocation scheme. Applied Mathematics and Computation, 2020, 369, 124824.	2.2	18
8	An adaptive LOOCV-based refinement scheme for RBF collocation methods over irregular domains. Applied Mathematics Letters, 2020, 103, 106178.	2.7	25
9	An Efficient Trivariate Algorithm for Tetrahedral Shepard Interpolation. Journal of Scientific Computing, 2020, 82, 1.	2.3	12
10	An Experimental Study of Univariate Global Optimization Algorithms for Finding the Shape Parameter in Radial Basis Functions. Communications in Computer and Information Science, 2020, , 326-339.	0.5	5
11	Adaptive procedures for meshfree RBF unsymmetric and symmetric collocation methods. Applied Mathematics and Computation, 2020, 382, 125354.	2.2	4
12	A two-stage adaptive scheme based on RBF collocation for solving elliptic PDEs. Computers and Mathematics With Applications, 2020, 79, 3206-3222.	2.7	26
13	Adaptive Refinement Techniques for RBF-PU Collocation. Lecture Notes in Computer Science, 2020, , 84-91.	1.3	0
14	A 3D Efficient Procedure for Shepard Interpolants on Tetrahedra. Lecture Notes in Computer Science, 2020, , 27-34.	1.3	0
15	An Adaptive LOOCV-Based Algorithm for Solving Elliptic PDEs via RBF Collocation. Lecture Notes in Computer Science, 2020, , 76-83.	1.3	1
16	Adaptive meshless refinement schemes for RBF-PUM collocation. Applied Mathematics Letters, 2019, 90, 131-138.	2.7	33
17	Fast computation of triangular Shepard interpolants. Journal of Computational and Applied Mathematics, 2019, 354, 457-470.	2.0	24
18	Anisotropic Weights for RBF-PU Interpolation with Subdomains of Variable Shapes. Lecture Notes in Computational Science and Engineering, 2019, , 93-101.	0.3	0

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19	A RBF partition of unity collocation method based on finite difference for initialâ€“boundary value problems. Computers and Mathematics With Applications, 2018, 75, 4066-4090.	2.7	31
20	OpenCL Based Parallel Algorithm for RBF-PUM Interpolation. Journal of Scientific Computing, 2018, 74, 267-289.	2.3	28
21	Optimal Selection of Local Approximants in RBF-PU Interpolation. Journal of Scientific Computing, 2018, 74, 1-22.	2.3	41
22	Hermiteâ€“Birkhoff interpolation on scattered data on the sphere and other manifolds. Applied Mathematics and Computation, 2018, 318, 35-50.	2.2	17
23	Topology analysis of global and local RBF transformations for image registration. Mathematics and Computers in Simulation, 2018, 147, 52-72.	4.4	1
24	Graphical Representation of Separatrices of Attraction Basins in Two and Three-Dimensional Dynamical Systems. International Journal of Computational Methods, 2017, 14, 1750008.	1.3	10
25	On the topology preservation of Gneitingâ€™s functions in image registration. Signal, Image and Video Processing, 2017, 11, 953-960.	2.7	1
26	Partition of unity interpolation using stable kernel-based techniques. Applied Numerical Mathematics, 2017, 116, 95-107.	2.1	27
27	Approximating basins of attraction for dynamical systems via stable radial bases. AIP Conference Proceedings, 2016, , .	0.4	1
28	Fast and flexible interpolation via PUM with applications in population dynamics. AIP Conference Proceedings, 2016, , .	0.4	0
29	Hermite-Birkhoff interpolation on arbitrarily distributed data on the sphere and other manifolds. AIP Conference Proceedings, 2016, , .	0.4	1
30	Mathematical models and numerical methods in life sciences. AIP Conference Proceedings, 2016, , .	0.4	0
31	RBF-PU interpolation with variable subdomain sizes and shape parameters. AIP Conference Proceedings, 2016, , .	0.4	3
32	Efficient computation of partition of unity interpolants through a block-based searching technique. Computers and Mathematics With Applications, 2016, 71, 2568-2584.	2.7	45
33	Robust Approximation Algorithms for the Detection of Attraction Basins in Dynamical Systems. Journal of Scientific Computing, 2016, 68, 395-415.	2.3	24
34	A Trivariate Interpolation Algorithm Using a Cube-Partition Searching Procedure. SIAM Journal of Scientific Computing, 2015, 37, A1891-A1908.	2.8	32
35	Lung assist devices influence cardio-energetic parameters: Numerical simulation study. , 2015, 2015, 4515-9.		1
36	Partition of unity interpolation on multivariate convex domains. International Journal of Modeling, Simulation, and Scientific Computing, 2015, 06, 1550034.	1.4	17

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37	Comparing disease-control policies for interacting wild populations. Nonlinear Dynamics, 2015, 79, 1881-1900.	5.2	9
38	A two-strain ecoepidemic competition model. Theoretical Ecology, 2015, 8, 37-52.	1.0	2
39	Reliable approximation of separatrix manifolds in competition models with safety niches. International Journal of Computer Mathematics, 2015, 92, 1826-1837.	1.8	19
40	A numerical algorithm for multidimensional modeling of scattered data points. Computational and Applied Mathematics, 2015, 34, 65-80.	1.3	18
41	An introduction to the Hilbert-Schmidt SVD using iterated Brownian bridge kernels. Numerical Algorithms, 2015, 68, 393-422.	1.9	39
42	Computing Topology Preservation of RBF Transformations for Landmark-Based Image Registration. Lecture Notes in Computer Science, 2015, , 96-108.	1.3	2
43	Two and Three Dimensional Partition of Unity Interpolation by Product-Type Functions. Applied Mathematics and Information Sciences, 2015, 9, 1-8.	0.5	12
44	Achieving accuracy and efficiency in spherical modelling of real data. Mathematical Methods in the Applied Sciences, 2014, 37, 1449-1459.	2.3	5
45	A meshless interpolation algorithm using a cell-based searching procedure. Computers and Mathematics With Applications, 2014, 67, 1024-1038.	2.7	24
46	Local interpolation schemes for landmark-based image registration: A comparison. Mathematics and Computers in Simulation, 2014, 106, 1-25.	4.4	6
47	Multidimensional Lobachevsky Spline Integration on Scattered Data. Applied Mathematics and Information Sciences, 2014, 8, 145-151.	0.5	5
48	Lobachevsky spline functions and interpolation to scattered data. Computational and Applied Mathematics, 2013, 32, 71-87.	1.3	21
49	Numerical integration on multivariate scattered data by Lobachevsky splines. International Journal of Computer Mathematics, 2013, 90, 2003-2018.	1.8	14
50	Visualization Aspects of Motion Tracking and Analysis of the Outer Surface of the Left Ventricle. Biomedizinische Technik, 2013, 58 Suppl 1, .	0.8	0
51	Analysis of Compactly Supported Transformations for Landmark-based Image Registration. Applied Mathematics and Information Sciences, 2013, 7, 2113-2121.	0.5	6
52	A unified version of efficient partition of unity algorithms for meshless interpolation. , 2012, , .		2
53	Landmark-based image registration using Gneiting's compactly supported functions. , 2012, , .		2
54	Spherical interpolation using the partition of unity method: An efficient and flexible algorithm. Applied Mathematics Letters, 2012, 25, 1251-1256.	2.7	28

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55	A class of spline functions for landmarkâ€based image registration. Mathematical Methods in the Applied Sciences, 2012, 35, 923-934.	2.3	25
56	Spectral analysis and preconditioning techniques for radial basis function collocation matrices. Numerical Linear Algebra With Applications, 2012, 19, 31-52.	1.6	7
57	Development of an Accurate Method for Motion Analyses of the Heart Wall Based on Medical Imagery. Lecture Notes in Computer Science, 2012, , 248-255.	1.3	2
58	Approximation of Dynamical Systemâ€™s Separatrix Curves. , 2011, , .		7
59	Scattered and track data interpolation using an efficient strip searching procedure. Applied Mathematics and Computation, 2011, 217, 5949-5966.	2.2	19
60	Fast and accurate interpolation of large scattered data sets on the sphere. Journal of Computational and Applied Mathematics, 2010, 234, 1505-1521.	2.0	27
61	Geometric modeling and motion analysis of the epicardial surface of the heart. Mathematics and Computers in Simulation, 2010, 81, 608-622.	4.4	6
62	Radial Basis Functions and Splines for Landmark-Based Registration of Medical Images. , 2010, , .		4
63	Adaptive detection and approximation of unknown surface discontinuities from scattered data. Simulation Modelling Practice and Theory, 2009, 17, 1059-1070.	3.8	12
64	A Local IDW Transformation Algorithm for Medical Image Registration. , 2008, , .		3