Matthias Dehmer

List of Publications by Year
in descending order

107 papers	3,128 citations	218677 26 h-index	175258 52 g-index
134 all docs	134 docs citations	134 times ranked	2244 citing authors

#	Article	IF	Citations
1	A history of graph entropy measures. Information Sciences, 2011, 181, 57-78.	6.9	392
2	An Introductory Review of Deep Learning for Prediction Models With Big Data. Frontiers in Artificial Intelligence, 2020, 3, 4.	3.4	316
3	Information processing in complex networks: Graph entropy and information functionals. Applied Mathematics and Computation, 2008, 201, 82-94.	2.2	256
4	A new coupled disease-awareness spreading model with mass media on multiplex networks. Information Sciences, 2019, 471, 185-200.	6.9	161
5	Fifty years of graph matching, network alignment and network comparison. Information Sciences, 2016, 346-347, 180-197.	6.9	158
6	On structure-sensitivity of degree-based topological indices. Applied Mathematics and Computation, 2013, 219, 8973-8978.	2.2	121
7	A Note on Distance-based Graph Entropies. Entropy, 2014, 16, 5416-5427.	2.2	117
8	On Entropy-Based Molecular Descriptors: Statistical Analysis of Real and Synthetic Chemical Structures. Journal of Chemical Information and Modeling, 2009, 49, 1655-1663.	5.4	86
9	Named Entity Recognition and Relation Detection for Biomedical Information Extraction. Frontiers in Cell and Developmental Biology, 2020, 8, 673.	3.7	78
10	Information Indices with High Discriminative Power for Graphs. PLoS ONE, 2012, 7, e31214.	2.5	60
11	Evaluation of Regression Models: Model Assessment, Model Selection and Generalization Error. Machine Learning and Knowledge Extraction, 2019, 1, 521-551.	5.0	59
12	Introduction to Survival Analysis in Practice. Machine Learning and Knowledge Extraction, 2019, 1, 1013-1038.	5.0	53
13	<tt>QuACN</tt>: an R package for analyzing complex biological networks quantitatively. Bioinformatics, 2011, 27, 140-141.	4.1	52
14	Interrelations of Graph Distance Measures Based on Topological Indices. PLoS ONE, 2014, 9, e94985.	2.5	49
15	Explainable artificial intelligence and machine learning: A reality rooted perspective. Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery, 2020, 10, e1368.	6.8	49
16	NetBioV: an R package for visualizing large network data in biology and medicine. Bioinformatics, 2014, 30, 2834-2836.	4.1	44
17	A comprehensive survey of error measures for evaluating binary decision making in data science. Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery, 2019, 9, e1303.	6.8	40
18	Dynamic Modeling and Trajectory Tracking Control of Parafoil System in Wind Environments. IEEE/ASME Transactions on Mechatronics, 2017, 22, 2736-2745.	5.8	38

#	ARTICLE	IF	CITATIONS
19	A Large Scale Analysis of Information-Theoretic Network Complexity Measures Using Chemical Structures. PLoS ONE, 2009, 4, e8057.	2.5	37
20	Impact of information diffusion on epidemic spreading in partially mapping two-layered time-varying networks. Nonlinear Dynamics, 2021, 105, 3819-3833.	5.2	36
21	Structural information content of networks: Graph entropy based on local vertex functionals. Computational Biology and Chemistry, 2008, 32, 131-138.	2.3	35
22	Generalized graph entropies. Complexity, 2011, 17, 45-50.	1.6	34
23	Entropy Bounds for Hierarchical Molecular Networks. PLoS ONE, 2008, 3, e3079.	2.5	34
24	Computational prediction of therapeutic peptides based on graph index. Journal of Biomedical Informatics, 2017, 75, 63-69.	4.3	33
25	A NOVEL METHOD FOR MEASURING THE STRUCTURAL INFORMATION CONTENT OF NETWORKS. Cybernetics and Systems, 2008, 39, 825-842.	2.5	31
26	Comparison of module detection algorithms in protein networks and investigation of the biological meaning of predicted modules. BMC Bioinformatics, 2016, 17, 129.	2.6	28
27	Connections between generalized graph entropies and graph energy. Complexity, 2015, 21, 35-41.	1.6	27
28	Prognostic gene expression signatures of breast cancer are lacking a sensible biological meaning. Scientific Reports, 2021, 11, 156.	3.3	26
29	Integrative Network Biology: Graph Prototyping for Co-Expression Cancer Networks. PLoS ONE, 2011, 6, e22843.	2.5	25
30	Path following control for towing system of cylindrical drilling platform in presence of disturbances and uncertainties. ISA Transactions, 2019, 95, 185-193.	5.7	25
31	A Generalized Predictive Control-Based Path Following Method for Parafoil Systems in Wind Environments. IEEE Access, 2019, 7, 42586-42595.	4.2	24
32	Inequalities for entropy-based measures of network information content. Applied Mathematics and Computation, 2010, 215, 4263-4271.	2.2	23
33	Connections between Classical and Parametric Network Entropies. PLoS ONE, 2011, 6, e15733.	2.5	23
34	Graph distance measures based on topological indices revisited. Applied Mathematics and Computation, 2015, 266, 623-633.	2.2	23
35	An efficient heuristic approach to detecting graph isomorphism based on combinations of highly discriminating invariants. Advances in Computational Mathematics, 2013, 39, 311-325.	1.6	22
36	Structural Differentiation of Graphs Using Hosoya-Based Indices. PLoS ONE, 2014, 9, e102459.	2.5	19

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37	Network analysis using a novel highly discriminating topological index. Complexity, 2011, 16, 32-39.	1.6	18
38	Discrimination power of graph measures based on complex zeros of the partial Hosoya polynomial. Applied Mathematics and Computation, 2015, 250, 352-355.	2.2	18
39	Hosoya entropy of fullerene graphs. Applied Mathematics and Computation, 2019, 352, 88-98.	2.2	16
40	The Hosoya Entropy of a Graph. Entropy, 2015, 17, 1054-1062.	2.2	15
41	Structural Discrimination of Networks by Using Distance, Degree and Eigenvalue-Based Measures. PLoS ONE, 2012, 7, e38564.	2.5	15
42	Location of Zeros of Wiener and Distance Polynomials. PLoS ONE, 2012, 7, e28328.	2.5	14
43	Highly unique network descriptors based on the roots of the permanental polynomial. Information Sciences, 2017, 408, 176-181.	6.9	14
44	Graph operations based on using distance-based graph entropies. Applied Mathematics and Computation, 2018, 333, 547-555.	2.2	14
45	The Hosoya Entropy of Graphs Revisited. Symmetry, 2019, 11, 1013.	2.2	14
46	New Polynomial-Based Molecular Descriptors with Low Degeneracy. PLoS ONE, 2010, 5, e11393.	2.5	13
47	On Properties of Distance-Based Entropies on Fullerene Graphs. Entropy, 2019, 21, 482.	2.2	13
48	The Uniqueness of -Matrix Graph Invariants. PLoS ONE, 2014, 9, e83868.	2.5	13
49	Prostate Cancer Gene Regulatory Network Inferred from RNA-Seq Data. Current Genomics, 2019, 20, 38-48.	1.6	12
50	The Orbit-Polynomial: A Novel Measure of Symmetry in Networks. IEEE Access, 2020, 8, 36100-36112.	4.2	12
51	Large-Scale Evaluation of Molecular Descriptors by Means of Clustering. PLoS ONE, 2013, 8, e83956.	2.5	12
52	Recent Developments in Quantitative Graph Theory: Information Inequalities for Networks. PLoS ONE, 2012, 7, e31395.	2.5	11
53	Large-scale analysis of structural branching measures. Journal of Mathematical Chemistry, 2014, 52, 805-819.	1.5	11
54	samExploreR: exploring reproducibility and robustness of RNA-seq results based on SAM files. Bioinformatics, 2016, 32, 3345-3347.	4.1	11

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55	Comparison of Text Mining Models for Food and Dietary Constituent Named-Entity Recognition. Machine Learning and Knowledge Extraction, 2022, 4, 254-275.	5.0	11
56	Properties of Entropy-Based Topological Measures of Fullerenes. Mathematics, 2020, 8, 740.	2.2	10
57	sgnesR: An R package for simulating gene expression data from an underlying real gene network structure considering delay parameters. BMC Bioinformatics, 2017, 18, 325.	2.6	9
58	Distributed Event-Triggered Circular Formation Control for Multiple Anonymous Mobile Robots With Order Preservation and Obstacle Avoidance. IEEE Access, 2020, 8, 167288-167299.	4.2	9
59	The Structural Information Content of Chemical Networks. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2008, 63, 155-158.	1.5	8
60	A Novel Chaotic Fractional-Order Beetle Swarm Optimization Algorithm and Its Application for Load-Frequency Active Disturbance Rejection Control. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 1267-1271.	3.0	8
61	The usefulness of topological indices. Information Sciences, 2022, 606, 143-151.	6.9	8
62	Structural similarity of directed universal hierarchical graphs: A low computational complexity approach. Applied Mathematics and Computation, 2007, 194, 7-20.	2.2	7
63	Towards Information Inequalities for Generalized Graph Entropies. PLoS ONE, 2012, 7, e38159.	2.5	7
64	The Quality of Zero Bounds for Complex Polynomials. PLoS ONE, 2012, 7, e39537.	2.5	7
65	Graph entropy based on the number of spanning forests of c-cyclic graphs. Applied Mathematics and Computation, 2019, 363, 124616.	2.2	7
66	Measuring the complexity of directed graphs: A polynomial-based approach. PLoS ONE, 2019, 14, e0223745.	2.5	7
67	Towards detecting structural branching and cyclicity in graphs: A polynomial-based approach. Information Sciences, 2019, 471, 19-28.	6.9	7
68	Power System Load Frequency Active Disturbance Rejection Control via Reinforcement Learning-Based Memetic Particle Swarm Optimization. IEEE Access, 2021, 9, 116194-116206.	4.2	7
69	Graph measures with high discrimination power revisited: A random polynomial approach. Information Sciences, 2018, 467, 407-414.	6.9	6
70	The networked cooperative dynamics of adjusting signal strength based on information quantity. Nonlinear Dynamics, 2020, 100, 831-847.	5.2	6
71	On the zeros of the partial Hosoya polynomial of graphs. Information Sciences, 2020, 524, 199-215.	6.9	6
72	New inequalities for network distance measures by using graph spectra. Discrete Applied Mathematics, 2019, 252, 17-27.	0.9	5

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73	A Survey on Symmetry Group of Polyhedral Graphs. Symmetry, 2020, 12, 370.	2.2	5
74	Properties of Commuting Graphs over Semidihedral Groups. Symmetry, 2021, 13, 103.	2.2	5
75	Analysis of the real number of infected people by COVID-19: A system dynamics approach. PLoS ONE, 2021, 16, e0245728.	2.5	5
76	Limitations of Explainability for Established Prognostic Biomarkers of Prostate Cancer. Frontiers in Genetics, 2021, 12, 649429.	2.3	5
77	Principal minor version of Matrix-Tree theorem for mixed graphs. Applied Mathematics and Computation, 2017, 309, 27-30.	2.2	4
78	Toward Measuring Network Aesthetics Based on Symmetry. Axioms, 2017, 6, 12.	1.9	4
79	Properties of graph distance measures by means of discrete inequalities. Applied Mathematical Modelling, 2018, 59, 739-749.	4.2	4
80	On the Degeneracy of the Orbit Polynomial and Related Graph Polynomials. Symmetry, 2020, 12, 1643.	2.2	4
81	Orbit Polynomial of Graphs versus Polynomial with Integer Coefficients. Symmetry, 2021, 13, 710.	2.2	4
82	RMol: a toolset for transforming SD/Molfile structure information into R objects. Source Code for Biology and Medicine, 2012, 7, 12.	1.7	3
83	Network Analyzing by the Aid of Orbit Polynomial. Symmetry, 2021, 13, 801.	2.2	3
84	[COMMODE] a large-scale database of molecular descriptors using compounds from PubChem. Source Code for Biology and Medicine, 2013, 8, 22.	1.7	2
85	The Discrimination Power of Structural SuperIndices. PLoS ONE, 2013, 8, e70551.	2.5	2
86	Discrimination Power of Polynomial-Based Descriptors for Graphs by Using Functional Matrices. PLoS ONE, 2015, 10, e0139265.	2.5	2
87	A hybrid binomial inverse hypergeometric probability distribution: Theory and applications. Applied Mathematics and Computation, 2018, 338, 44-54.	2.2	2
88	A Note on Graphs with Prescribed Orbit Structure. Entropy, 2019, 21, 1118.	2.2	2
89	Relations and bounds for the zeros of graph polynomials using vertex orbits. Applied Mathematics and Computation, 2020, 380, 125239.	2.2	2
90	Fluid-Structure Interaction Simulation and Accurate Dynamic Modeling of Parachute Warhead System Based on Impact Point Prediction. IEEE Access, 2021, 9, 104418-104428.	4.2	2

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91	Relationships between symmetry-based graph measures. Information Sciences, 2021, 581, 291-303.	6.9	2
92	A case study of cracks in the scientific enterprise: Reinvention of information‐theoretic measures for graphs. Complexity, 2016, 21, 10-14.	1.6	1
93	Comments to "Quantification of network structural dissimilarities" published by Schieber et al. Mathematical Methods in the Applied Sciences, 2018, 41, 5711-5713.	2.3	1
94	Analysis of the Graovac–Pisanski Index of Some Polyhedral Graphs Based on Their Symmetry Group. Symmetry, 2020, 12, 1411.	2.2	1
95	Orbit Entropy and Symmetry Index Revisited. Mathematics, 2021, 9, 1086.	2.2	1
96	On the Roots of the Modified Orbit Polynomial of a Graph. Symmetry, 2021, 13, 972.	2.2	1
97	A Fall Posture Classification and Recognition Method Based on Wavelet Packet Transform and Support Vector Machine. Applied Sciences (Switzerland), 2021, 11, 5030.	2.5	1
98	Are There Limits in Explainability of Prognostic Biomarkers? Scrutinizing Biological Utility of Established Signatures. Cancers, 2021, 13, 5087.	3.7	1
99	Servo Health Monitoring Based on Feature Learning via Deep Neural Network. IEEE Access, 2021, 9, 160887-160896.	4.2	1
100	Finding Verified Edges in Genetic/Gene Networks: Bilayer Verification for Network Recovery in the Presence of Hidden Confounders. , 0, , 51-81.		0
101	Predicting Functional Modules Using Microarray and Protein Interaction Data. , 0, , 307-329.		0
102	Structural Analysis of Treatment Cycles Representing Transitions between Nursing Organizational Units Inferred from Diabetes. PLoS ONE, 2015, 10, e0127152.	2.5	0
103	A method for inferring inequalities for probability values applied to complex networks. Complexity, 2016, 21, 113-115.	1.6	0
104	A case study of cracks in the scientific enterprise: Response to the comments. Complexity, 2016, 21, 20-22.	1.6	0
105	Numerical Evaluation and Comparison of Kalantari's Zero Bounds for Complex Polynomials. PLoS ONE, 2014, 9, e110540.	2.5	0
106	Automorphism Groups of Alkane Graphs. Croatica Chemica Acta, 2021, 94, .	0.4	0
107	Novel results on partial hosoya polynomials: An application in chemistry. Applied Mathematics and Computation, 2022, 433, 127379.	2.2	0