

JosÃ© Fernando Fontanari

List of Publications by Year in descending order

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113
papers

1,496
citations

361413

20
h-index

414414

32
g-index

113
all docs

113
docs citations

113
times ranked

709
citing authors

#	ARTICLE	IF	CITATIONS
1	Stochastic versus deterministic update in simulated annealing. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1990, 146, 204-208.	2.1	78
2	Error threshold in finite populations. <i>Physical Review E</i> , 1998, 57, 7008-7013.	2.1	78
3	Cross-situational learning of object-word mapping using Neural Modeling Fields. <i>Neural Networks</i> , 2009, 22, 579-585.	5.9	54
4	How language can help discrimination in the Neural Modelling Fields framework. <i>Neural Networks</i> , 2008, 21, 250-256.	5.9	49
5	Evolving Compositionality in Evolutionary Language Games. <i>IEEE Transactions on Evolutionary Computation</i> , 2007, 11, 758-769.	10.0	46
6	Information storage and retrieval in synchronous neural networks. <i>Physical Review A</i> , 1987, 36, 2475-2477.	2.5	44
7	Coexistence and error propagation in pre-biotic vesicle models: A group selection approach. <i>Journal of Theoretical Biology</i> , 2006, 239, 247-256.	1.7	41
8	Multifractal analysis of DNA walks and trails. <i>Physical Review E</i> , 2002, 66, 061906.	2.1	39
9	A game theoretical approach to the evolution of structured communication codes. <i>Theory in Biosciences</i> , 2008, 127, 205-214.	1.4	39
10	Integrating Language and Cognition: A Cognitive Robotics Approach. <i>IEEE Computational Intelligence Magazine</i> , 2007, 2, 65-70.	3.2	38
11	Finite-size scaling of the quasispecies model. <i>Physical Review E</i> , 1998, 58, 2664-2667.	2.1	37
12	Calculation of learning curves for inconsistent algorithms. <i>Physical Review A</i> , 1992, 45, 8874-8884.	2.5	29
13	Random Replicators with High-Order Interactions. <i>Physical Review Letters</i> , 2000, 85, 4984-4987.	7.8	28
14	Complementarity and Diversity in a Soluble Model Ecosystem. <i>Physical Review Letters</i> , 2002, 89, 148101.	7.8	27
15	The media effect in Axelrod's model explained. <i>Europhysics Letters</i> , 2011, 96, 38004.	2.0	26
16	Population genetics approach to the quasispecies model. <i>Physical Review E</i> , 1996, 54, 4048-4053.	2.1	25
17	Imitative Learning as a Connector of Collective Brains. <i>PLoS ONE</i> , 2014, 9, e110517.	2.5	25
18	Landscape statistics of the low-autocorrelation binary string problem. <i>Journal of Physics A</i> , 2000, 33, 8635-8647.	1.6	23

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19	Soluble Model for the Accumulation of Mutations in Asexual Populations. <i>Physical Review Letters</i> , 2001, 87, 238102.	7.8	23
20	Agent-based models of collective intelligence. <i>Physics of Life Reviews</i> , 2019, 31, 320-331.	2.8	22
21	Nonequilibrium phase transitions in a model for the origin of life. <i>Physical Review E</i> , 2002, 65, 021902.	2.1	20
22	Effect of selection on the topology of genealogical trees. <i>Journal of Theoretical Biology</i> , 2004, 226, 315-320.	1.7	20
23	Solvable null model for the distribution of word frequencies. <i>Physical Review E</i> , 2004, 70, 042901.	2.1	20
24	Mutation Accumulation in Growing Asexual Lineages. <i>Physical Review Letters</i> , 2003, 91, 218101.	7.8	19
25	Cultureâ€™s area relation in Axelrodâ€™s model for culture dissemination. <i>Theory in Biosciences</i> , 2009, 128, 205-210.	1.4	19
26	The mass media destabilizes the cultural homogenous regime in Axelrod's model. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2010, 43, 055003.	2.1	19
27	Language and Cognition Integration Through Modeling Field Theory: Category Formation for Symbol Grounding. <i>Lecture Notes in Computer Science</i> , 2006, , 376-385.	1.3	18
28	The information capacity of hypercycles. <i>Journal of Theoretical Biology</i> , 2008, 254, 804-806.	1.7	18
29	Evolutionary dynamics on rugged fitness landscapes: Exact dynamics and information theoretical aspects. <i>Physical Review E</i> , 2009, 80, 041903.	2.1	18
30	Influence of network topology on cooperative problem-solving systems. <i>Theory in Biosciences</i> , 2016, 135, 101-110.	1.4	18
31	Phase transition and landscape statistics of the number partitioning problem. <i>Physical Review E</i> , 2003, 67, 056701.	2.1	17
32	Phenotypic plasticity, the Baldwin effect, and the speeding up of evolution: The computational roots of an illusion. <i>Journal of Theoretical Biology</i> , 2015, 371, 127-136.	1.7	17
33	Instrumentalizing Cognitive Dissonance Emotions. <i>Psychology</i> , 2012, 03, 1018-1026.	0.5	16
34	Learning noisy patterns in a Hopfield network. <i>Physical Review A</i> , 1989, 40, 2806-2809.	2.5	15
35	Revisiting the nonequilibrium phase transition of the triplet-creation model. <i>European Physical Journal B</i> , 2006, 51, 555-561.	1.5	14
36	The paradox of productivity during quarantine: an agent-based simulation. <i>European Physical Journal B</i> , 2021, 94, 40.	1.5	14

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37	Metastable states in short-ranged p-spin glasses. <i>Journal of Physics A</i> , 1999, 32, 8793-8802.	1.6	13
38	Fractal geometry of spin-glass models. <i>Journal of Physics A</i> , 2002, 35, 1509-1516.	1.6	13
39	Genealogical process on a correlated fitness landscape. <i>The Journal of Experimental Zoology</i> , 2002, 294, 274-284.	1.4	13
40	Shapes of tree representations of spin-glass landscapes. <i>Journal of Physics A</i> , 2003, 36, 3671-3681.	1.6	13
41	Social interaction as a heuristic for combinatorial optimization problems. <i>Physical Review E</i> , 2010, 82, 056118.	2.1	12
42	A structural model of emotions of cognitive dissonances. <i>Neural Networks</i> , 2012, 32, 57-64.	5.9	12
43	Exploring NK fitness landscapes using imitative learning. <i>European Physical Journal B</i> , 2015, 88, 1.	1.5	12
44	Impact of centrality on cooperative processes. <i>Physical Review E</i> , 2017, 95, 022305.	2.1	12
45	Effect of group organization on the performance of cooperative processes. <i>Ecological Complexity</i> , 2017, 30, 47-56.	2.9	12
46	Effect of long-range interactions on the phase transition of Axelrod's model. <i>Physical Review E</i> , 2016, 94, 052149.	2.1	11
47	Analytical solution of the evolution dynamics on a multiplicative-fitness landscape. <i>Journal of Mathematical Biology</i> , 2003, 47, 453-456.	1.9	10
48	Solvable model for template coexistence in protocells. <i>Europhysics Letters</i> , 2013, 101, 38006.	2.0	10
49	Data compression and prediction in neural networks. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1993, 200, 644-654.	2.6	9
50	Statistical mechanics analysis of the continuous number partitioning problem. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 269, 54-60.	2.6	9
51	Template coexistence in prebiotic vesicle models. <i>European Physical Journal B</i> , 2005, 47, 423-429.	1.5	9
52	Model ecosystem with variable interspecies interactions. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2007, 40, 8723-8738.	2.1	9
53	A cross-situational algorithm for learning a lexicon using Neural modeling fields. , 2009, , .		9
54	Cross-situational and supervised learning in the emergence of communication. <i>Interaction Studies</i> , 2011, 12, 119-133.	0.6	9

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55	Nonlinear group survival in Kimura's model for the evolution of altruism. <i>Mathematical Biosciences</i> , 2014, 249, 18-26.	1.9	9
56	Effect of Migration in a Diffusion Model for Template Coexistence in Protocells. <i>Bulletin of Mathematical Biology</i> , 2014, 76, 654-672.	1.9	9
57	When more of the same is better. <i>Europhysics Letters</i> , 2016, 113, 28009.	2.0	9
58	The spatial dynamics of ecosystem engineers. <i>Mathematical Biosciences</i> , 2017, 292, 76-85.	1.9	9
59	A stochastic model for the influence of social distancing on loneliness. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2021, 584, 126367.	2.6	9
60	Categorization and symbol grounding in a complex environment. , 2006, , .		8
61	Mobility helps problem-solving systems to avoid groupthink. <i>Physical Review E</i> , 2019, 99, 032301.	2.1	8
62	Subjective Emotions vs. Verbalizable Emotions in Web Texts. <i>International Journal of Psychology and Behavioral Sciences</i> , 2012, 2, 173-184.	2.8	8
63	Effects of trilinear symmetry breaking on the Potts-model transition of uniaxially stressed SrTiO ₃ . <i>Physical Review B</i> , 1986, 33, 3530-3533.	3.2	7
64	Evolution of Protein Synthesis in a Lattice Model of Replicators. <i>Physical Review Letters</i> , 2002, 89, 188101.	7.8	7
65	Awareness improves problem-solving performance. <i>Cognitive Systems Research</i> , 2017, 45, 52-58.	2.7	7
66	The consensus in the two-feature two-state one-dimensional Axelrod model revisited. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2015, 2015, P04006.	2.3	7
67	The spherical-model limit in a random field. <i>Journal of Statistical Physics</i> , 1986, 45, 99-112.	1.2	6
68	Model ecosystems with random nonlinear interspecies interactions. <i>Physical Review E</i> , 2004, 70, 061914.	2.1	6
69	A quasispecies approach to the evolution of sexual replication in unicellular organisms. <i>Theory in Biosciences</i> , 2008, 127, 53-65.	1.4	6
70	Package models and the information crisis of prebiotic evolution. <i>Journal of Theoretical Biology</i> , 2008, 252, 326-337.	1.7	6
71	Statistics of opinion domains of the majority-vote model on a square lattice. <i>Physical Review E</i> , 2010, 82, 046103.	2.1	6
72	Effect of external fields in Axelrod's model of social dynamics. <i>Physical Review E</i> , 2012, 86, 031131.	2.1	6

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73	Minimal model of associative learning for cross-situational lexicon acquisition. Journal of Mathematical Psychology, 2012, 56, 396-403.	1.8	6
74	Diffusion of innovations in Axelrod's model. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P11026.	2.3	6
75	First-order transitions in a two-dimensional nonequilibrium replicator model. Physica A: Statistical Mechanics and Its Applications, 2006, 359, 478-494.	2.6	5
76	Statistical analysis of discrimination games. European Physical Journal B, 2006, 54, 127-130.	1.5	5
77	Preservation of information in a prebiotic package model. Physical Review E, 2007, 75, 051909.	2.1	5
78	Then-site approximation for the triplet-creation model. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 085004.	2.1	5
79	Reinforcement and inference in cross-situational word learning. Frontiers in Behavioral Neuroscience, 2013, 7, 163.	2.0	5
80	The nature of the continuous non-equilibrium phase transition of Axelrod's model. Europhysics Letters, 2015, 111, 58001.	2.0	5
81	The Collapse of Ecosystem Engineer Populations. Mathematics, 2018, 6, 9.	2.2	5
82	Stochastic group selection model for the evolution of altruism. Physica A: Statistical Mechanics and Its Applications, 1999, 268, 257-268.	2.6	4
83	On the structure of genealogical trees in the presence of selection. Physica A: Statistical Mechanics and Its Applications, 2000, 283, 11-16.	2.6	4
84	Spatial dynamics and the evolution of enzyme production. Origins of Life and Evolution of Biospheres, 2003, 33, 357-374.	1.9	4
85	The random replicator model at nonzero temperature. European Physical Journal B, 2005, 48, 557-565.	1.5	4
86	Emotions of cognitive dissonance. , 2011, , .		4
87	Critical behavior in a cross-situational lexicon learning scenario. Europhysics Letters, 2012, 99, 60001.	2.0	4
88	Policies for allocation of information in task-oriented groups: elitism and egalitarianism outperform welfarism. European Physical Journal B, 2019, 92, 1.	1.5	4
89	A SIR epidemic model for citation dynamics. European Physical Journal Plus, 2021, 136, 1.	2.6	4
90	The spherical model as the limiting n-vector model in a random field. Physica A: Statistical Mechanics and Its Applications, 1988, 149, 341-357.	2.6	3

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91	Reputation blackboard systems. Cognitive Systems Research, 2018, 50, 29-35.	2.7	3
92	Predictability of imitative learning trajectories. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 013501.	2.3	3
93	The surprising little effectiveness of cooperative algorithms in parallel problem solving. European Physical Journal B, 2020, 93, 1.	1.5	3
94	Influence of technological progress and renewability on the sustainability of ecosystem engineers populations. Mathematical Biosciences and Engineering, 2019, 16, 3450-3464.	1.9	3
95	Dilution in a linear neural network. Physical Review E, 1995, 51, 6219-6229.	2.1	2
96	Language acquisition and category discrimination in the Modeling Field Theory framework. Neural Networks (IJCNN), International Joint Conference on, 2007, , .	0.0	2
97	Mean-field analysis of the majority-vote model broken-ergodicity steady state. Journal of Statistical Mechanics: Theory and Experiment, 2012, 2012, P07003.	2.3	2
98	The revival of the Baldwin effect. European Physical Journal B, 2017, 90, 1.	1.5	2
99	Comfort-driven mobility produces spatial fragmentation in Axelrod's model. Journal of Statistical Mechanics: Theory and Experiment, 2020, 2020, 033402.	2.3	2
100	Potts model in a random field. Physical Review B, 1989, 39, 7132-7139.	3.2	1
101	Slow interaction dynamics in the spherical spin-glass model. Physica A: Statistical Mechanics and Its Applications, 2003, 329, 365-370.	2.6	1
102	Minimal models for text production and Zipf's law. , 0, , .		1
103	Controlling species richness in spin-glass model ecosystems. Physical Review E, 2006, 74, 051919.	2.1	1
104	Scaling Up of Action Repertoire in Linguistic Cognitive Agents. , 2007, , .		1
105	Object perception in the neural modeling fields framework. , 2008, , .		1
106	A computational model of adults' performance in naming objects using cross-situational learning. , 2010, , .		1
107	Individual decision making in task-oriented groups. European Physical Journal B, 2019, 92, 1.	1.5	1
108	Wisdom of crowds: much ado about nothing. Journal of Statistical Mechanics: Theory and Experiment, 2021, 2021, 053402.	2.3	1

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109	A Modeling Field Theory approach to pursuit games. , 2007, , .		0
110	How communication can improve differentiation in the Modeling Field Theory framework. , 2007, , .		0
111	The performance of a linear learning algorithm for cross-situational vocabulary learning. , 2011, , .		0
112	Solving a cryptarithmic problem using a social learning heuristic. , 2014, , .		0
113	Long-term scientific impact revisited. European Physical Journal Plus, 2022, 137, 1.	2.6	0