Imme Ebert-Uphoff

List of Publications by Year
in descending order

61 papers	2,619 citations	361413 20 h-index	289244 40 g-index
69 all docs	69 docs citations	69 times ranked	1889 citing authors

#	Article	IF	Citations
1	Low Cloud Detection in Multilayer Scenes Using Satellite Imagery with Machine Learning Methods. Journal of Atmospheric and Oceanic Technology, 2022, 39, 319-334.	1.3	4
2	Explainable Artificial Intelligence inÂMeteorology andÂClimate Science: Model Fine-Tuning, Calibrating Trust andÂLearning New Science. Lecture Notes in Computer Science, 2022, , 315-339.	1.3	5
3	Why we need to focus on developing ethical, responsible, and trustworthy artificial intelligence approaches for environmental science. , 2022, 1, .		22
4	Neural network attribution methods for problems in geoscience: A novel synthetic benchmark dataset. , 2022, 1, .		29
5	Detection of Forced Change Within Combined Climate Fields Using Explainable Neural Networks. Journal of Advances in Modeling Earth Systems, 2022, 14, .	3.8	6
6	Development and Interpretation of a Neural-Network-Based Synthetic Radar Reflectivity Estimator Using GOES-R Satellite Observations. Journal of Applied Meteorology and Climatology, 2021, 60, 3-21.	1.5	29
7	Strengthened Causal Connections Between the MJO and the North Atlantic With Climate Warming. Geophysical Research Letters, 2021, 48, e2020GL091168.	4.0	9
8	Applying machine learning methods to detect convection using Geostationary Operational Environmental Satellite-16 (GOES-16) advanced baseline imager (ABI) data. Atmospheric Measurement Techniques, 2021, 14, 2699-2716.	3.1	16
9	Using deep learning to emulate and accelerate a radiative-transfer model. Journal of Atmospheric and Oceanic Technology, 2021, , .	1.3	13
10	Using Deep Learning to Nowcast the Spatial Coverage of Convection from Himawari-8 Satellite Data. Monthly Weather Review, 2021, 149, 3897-3921.	1.4	11
11	Bridging sustainability science, earth science, and data science through interdisciplinary education. Sustainability Science, 2020, 15, 647-661.	4.9	13
12	Physically Interpretable Neural Networks for the Geosciences: Applications to Earth System Variability. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS002002.	3.8	140
13	Indicator Patterns of Forced Change Learned by an Artificial Neural Network. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002195.	3.8	47
14	A Causality-Based View of the Interaction between Synoptic- and Planetary-Scale Atmospheric Disturbances. Journals of the Atmospheric Sciences, 2020, 77, 925-941.	1.7	5
15	Evaluation, Tuning, and Interpretation of Neural Networks for Working with Images in Meteorological Applications. Bulletin of the American Meteorological Society, 2020, 101, E2149-E2170.	3.3	51
16	Machine Learning for the Geosciences: Challenges and Opportunities. IEEE Transactions on Knowledge and Data Engineering, 2019, 31, 1544-1554.	5.7	287
17	Tropospheric and Stratospheric Causal Pathways Between the MJO and NAO. Journal of Geophysical Research D: Atmospheres, 2019, 124, 9356-9371.	3.3	44
18	New Exploratory Tools for Extremal Dependence: $$chi $$ Networks and Annual Extremal Networks. Journal of Agricultural, Biological, and Environmental Statistics, 2019, 24, 484-501.	1.4	5

#	Article	IF	Citations
19	Viewing Forced Climate Patterns Through an AI Lens. Geophysical Research Letters, 2019, 46, 13389-13398.	4.0	78
20	A study of links between the Arctic and the midlatitude jet stream using Granger and Pearl causality. Environmetrics, 2019, 30, e2540.	1.4	19
21	Thoughtfully Using Artificial Intelligence in Earth Science. Eos, 2019, 100, .	0.1	9
22	Intelligent systems for geosciences. Communications of the ACM, 2018, 62, 76-84.	4.5	71
23	Causal discovery in the geosciencesâ€"Using synthetic data to learn how to interpret results. Computers and Geosciences, 2017, 99, 50-60.	4.2	16
24	High-Dimensional Dependency Structure Learning for Physical Processes. , 2017, , .		0
25	Three Steps to Successful Collaboration with Data Scientists. Eos, 2017, , .	0.1	3
26	Evaluating lossy data compression on climate simulation data within a large ensemble. Geoscientific Model Development, 2016, 9, 4381-4403.	3.6	56
27	Identifying Physical Interactions from Climate Data: Challenges and Opportunities. Computing in Science and Engineering, 2015, 17, 27-34.	1.2	4
28	Causal Discovery from Spatio-Temporal Data with Applications to Climate Science. , 2014, , .		19
29	Weakening of atmospheric information flow in a warming climate in the Community Climate System Model. Geophysical Research Letters, 2014, 41, 193-200.	4.0	19
30	A new type of climate network based on probabilistic graphical models: Results of boreal winter versus summer. Geophysical Research Letters, 2012, 39, .	4.0	46
31	Causal Discovery for Climate Research Using Graphical Models. Journal of Climate, 2012, 25, 5648-5665.	3.2	126
32	Wrench-feasible workspace generation for cable-driven robots. , 2006, 22, 890-902.		205
33	Performance Measures For Input Shaping and Command Generation. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2006, 128, 731-736.	1.6	30
34	Application of the antipodal grasp theorem to cable-driven robots. , 2005, 21, 713-718.		27
35	Overarching framework for measuring closeness to singularities of parallel manipulators. , 2005, 21, 1037-1045.		45
36	Application of Workspace Generation Techniques to Determine the Unconstrained Motion of Parallel Manipulators. Journal of Mechanical Design, Transactions of the ASME, 2004, 126, 283-290.	2.9	28

#	Article	IF	Citations
37	Locally Linearized Dynamic Analysis of Parallel Manipulators and Application of Input Shaping to Reduce Vibrations. Journal of Mechanical Design, Transactions of the ASME, 2004, 126, 156-168.	2.9	56
38	A stability measure for underconstrained cable-driven robots. , 2004, , .		25
39	Active Acceleration Compensation for Transport Vehicles Carrying Delicate Objects. , 2004, 20, 830-839.		16
40	Wrench-based analysis of cable-driven robots. , 2004, , .		83
41	Measuring "closeness" to singularities for parallel manipulators. , 2004, , .		32
42	On the connections between cable-driven robots, parallel manipulators and grasping. , 2004, , .		70
43	Force-feasible workspace analysis for underconstrained, point-mass cable robots. , 2004, , .		67
44	Introducing parallel manipulators through laboratory experiments. IEEE Robotics and Automation Magazine, 2003, 10, 13-19.	2.0	7
45	Characteristic tetrahedron of wrench singularities for parallel manipulators with three legs. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2002, 216, 81-93.	2.1	32
46	Practical considerations for the static balancing of mechanisms of parallel architecture. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2002, 216, 73-85.	0.8	12
47	Static Balancing of Spatial Parallel Platform Mechanismsâ€"Revisited. Journal of Mechanical Design, Transactions of the ASME, 2000, 122, 43-51.	2.9	75
48	Preparing for the next century: the state of mechatronics education. IEEE/ASME Transactions on Mechatronics, 2000, 5, 226-227.	5.8	13
49	Numerical convolution on the Euclidean group with applications to workspace generation. IEEE Transactions on Automation Science and Engineering, 1998, 14, 123-136.	2.3	60
50	Discretely Actuated Manipulator Workspace Generation by Closed Form Convolution. Journal of Mechanical Design, Transactions of the ASME, 1998, 120, 245-251.	2.9	11
51	Useful metrics for modular robot motion planning. IEEE Transactions on Automation Science and Engineering, 1997, 13, 531-545.	2.3	199
52	Evaluating efficiency of self-reconfiguration in a class of modular robots. Journal of Field Robotics, 1996, 13, 317-338.	0.7	127
53	Discretely Actuated Manipulator Workspace Generation by Closed-Form Convolution. , 1996, , .		4
54	Efficient workspace generation for binary manipulators with many actuators. Journal of Field Robotics, 1995, 12, 383-400.	0.7	54

#	Article	IF	Citations
55	Inverse kinematics of discretely actuated hyper-redundant manipulators using workspace densities. , 0, , .		75
56	Discretely actuated manipulator workspace generation using numerical convolution on the Euclidean group. , 0, , .		5
57	Dynamic modeling of a class of spatial statically-balanced parallel platform mechanisms. , 0, , .		3
58	Investigation of the deficiencies of parallel manipulators in singular configurations through the Jacobian nullspace. , 0, , .		7
59	Motion planning for active acceleration compensation. , 0, , .		10
60	Finger sculpting with Digital Clay: 3D shape input and output through a computer-controlled real surface. , 0, , .		21
61	Disturbance robustness measures for underconstrained cable-driven robots. , 0, , .		8