Chaowei Yang

List of Publications by Year
in descending order

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159	4,275	117571	123376
papers	citations	34 h-index	61 g-index

165	165	165	3546
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Big Data and cloud computing: innovation opportunities and challenges. International Journal of Digital Earth, 2017, 10, 13-53.	1.6	537
2	Spatial cloud computing: how can the geospatial sciences use and help shape cloud computing?. International Journal of Digital Earth, 2011, 4, 305-329.	1.6	298
3	Geospatial Cyberinfrastructure: Past, present and future. Computers, Environment and Urban Systems, 2010, 34, 264-277.	3.3	286
4	Big Data in Natural Disaster Management: A Review. Geosciences (Switzerland), 2018, 8, 165.	1.0	193
5	Performanceâ€improving techniques in webâ€based GIS. International Journal of Geographical Information Science, 2005, 19, 319-342.	2.2	156
6	Utilizing Cloud Computing to address big geospatial data challenges. Computers, Environment and Urban Systems, 2017, 61, 120-128.	3.3	138
7	Using spatial principles to optimize distributed computing for enabling the physical science discoveries. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 5498-5503.	3.3	107
8	Spatiotemporal Patterns of COVID-19 Impact on Human Activities and Environment in Mainland China Using Nighttime Light and Air Quality Data. Remote Sensing, 2020, 12, 1576.	1.8	103
9	Redefining the possibility of digital Earth and geosciences with spatial cloud computing. International Journal of Digital Earth, 2013, 6, 297-312.	1.6	91
10	Taking the pulse of COVID-19: a spatiotemporal perspective. International Journal of Digital Earth, 2020, 13, 1186-1211.	1.6	88
11	Spatiotemporal impacts of COVID-19 on air pollution in California, USA. Science of the Total Environment, 2021, 750, 141592.	3.9	86
12	Distributed geospatial information processing: sharing distributed geospatial resources to support Digital Earth. International Journal of Digital Earth, 2008, 1, 259-278.	1.6	81
13	Deep learning for real-time social media text classification for situation awareness â€“ using Hurricanes Sandy, Harvey, and Irma as case studies. International Journal of Digital Earth, 2019, 12, 1230-1247.	1.6	79
14	Introduction to distributed geographic information processing research. International Journal of Geographical Information Science, 2009, 23, 553-560.	2.2	64
15	An active crawler for discovering geospatial Web services and their distribution pattern â€“ A case study of OGC Web Map Service. International Journal of Geographical Information Science, 2010, 24, 1127-1147.	2.2	63
16	Spatiotemporal event detection: a review. International Journal of Digital Earth, 2020, 13, 1339-1365.	1.6	57
17	The Impact of Policy Measures on Human Mobility, COVID-19 Cases, and Mortality in the US: A Spatiotemporal Perspective. International Journal of Environmental Research and Public Health, 2021, 18, 996.	1.2	56
18	A spatiotemporal indexing approach for efficient processing of big array-based climate data with MapReduce. International Journal of Geographical Information Science, 2017, 31, 17-35.	2.2	54

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19	Big Earth data analytics: a survey. Big Earth Data, 2019, 3, 83-107.	2.0	53
20	An optimized framework for seamlessly integrating OGC Web Services to support geospatial sciences. International Journal of Geographical Information Science, 2011, 25, 595-613.	2.2	52
21	Utilize cloud computing to support dust storm forecasting. International Journal of Digital Earth, 2013, 6, 338-355.	1.6	49
22	A graph-based approach to detecting tourist movement patterns using social media data. Cartography and Geographic Information Science, 2019, 46, 368-382.	1.4	48
23	Big Spatiotemporal Data Analytics: a research and innovation frontier. International Journal of Geographical Information Science, 2020, 34, 1075-1088.	2.2	48
24	Visualizing 3D/4D environmental data using many-core graphics processing units (GPUs) and multi-core central processing units (CPUs). Computers and Geosciences, 2013, 59, 78-89.	2.0	46
25	Evaluating the â€œgeographical awarenessâ€•of individuals: an exploratory analysis of twitter data. Cartography and Geographic Information Science, 2013, 40, 103-115.	1.4	45
26	High-performance computing for the simulation of dust storms. Computers, Environment and Urban Systems, 2010, 34, 278-290.	3.3	44
27	Semantic-based web service discovery and chaining for building an Arctic spatial data infrastructure. Computers and Geosciences, 2011, 37, 1752-1762.	2.0	44
28	Evaluating open-source cloud computing solutions for geosciences. Computers and Geosciences, 2013, 59, 41-52.	2.0	42
29	Monitoring and evaluating the quality of Web Map Service resources for optimizing map composition over the internet to support decision making. Computers and Geosciences, 2011, 37, 485-494.	2.0	40
30	Building Model as a Service to support geosciences. Computers, Environment and Urban Systems, 2017, 61, 141-152.	3.3	40
31	A Service Brokering and Recommendation Mechanism for Better Selecting Cloud Services. PLoS ONE, 2014, 9, e105297.	1.1	38
32	Numerical Simulations of the Impacts of the Saharan Air Layer on Atlantic Tropical Cyclone Development. Journal of Climate, 2009, 22, 6230-6250.	1.2	37
33	Automatic Scaling Hadoop in the Cloud for Efficient Process of Big Geospatial Data. ISPRS International Journal of Geo-Information, 2016, 5, 173.	1.4	37
34	Enabling Big Geoscience Data Analytics with a Cloud-Based, MapReduce-Enabled and Service-Oriented Workflow Framework. PLoS ONE, 2015, 10, e0116781.	1.1	37
35	A Twitter Data Credibility Frameworkâ€”Hurricane Harvey as a Use Case. ISPRS International Journal of Geo-Information, 2019, 8, 111.	1.4	36
36	Optimizing grid computing configuration and scheduling for geospatial analysis: An example with interpolating DEM. Computers and Geosciences, 2011, 37, 165-176.	2.0	34

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37	A performance, semantic and service quality-enhanced distributed search engine for improving geospatial resource discovery. International Journal of Geographical Information Science, 2013, 27, 1109-1132.	2.2	34
38	ClimateSpark: An in-memory distributed computing framework for big climate data analytics. Computers and Geosciences, 2018, 115, 154-166.	2.0	34
39	Teamwork-oriented integrated modeling method for geo-problem solving. Environmental Modelling and Software, 2019, 119, 111-123.	1.9	34
40	Visualizing dynamic geosciences phenomena using an octree-based view-dependent LOD strategy within virtual globes. Computers and Geosciences, 2011, 37, 1295-1302.	2.0	33
41	Using adaptively coupled models and high-performance computing for enabling the computability of dust storm forecasting. International Journal of Geographical Information Science, 2013, 27, 765-784.	2.2	30
42	Individual-Level Fatality Prediction of COVID-19 Patients Using AI Methods. Frontiers in Public Health, 2020, 8, 587937.	1.3	28
43	Land Surface Temperature Derivation under All Sky Conditions through Integrating AMSR-E/AMSR-2 and MODIS/GOES Observations. Remote Sensing, 2019, 11, 1704.	1.8	27
44	Cloud computing for geosciences. , 2010, , .		24
45	An Environmental Data Collection for COVID-19 Pandemic Research. Data, 2020, 5, 68.	1.2	23
46	Building a spatiotemporal index for Earth Observation Big Data. International Journal of Applied Earth Observation and Geoinformation, 2018, 73, 245-252.	1.4	20
47	A Web-Based Geovisual Analytical System for Climate Studies. Future Internet, 2012, 4, 1069-1085.	2.4	19
48	Spatiotemporal changes in global nitrogen dioxide emission due to COVID-19 mitigation policies. Science of the Total Environment, 2021, 776, 146027.	3.9	19
49	Spatiotemporal analysis of medical resource deficiencies in the U.S. under COVID-19 pandemic. PLoS ONE, 2020, 15, e0240348.	1.1	19
50	Adopting cloud computing to optimize spatial web portals for better performance to support Digital Earth and other global geospatial initiatives. International Journal of Digital Earth, 2015, 8, 451-475.	1.6	18
51	Evaluating the Open Source Data Containers for Handling Big Geospatial Raster Data. ISPRS International Journal of Geo-Information, 2018, 7, 144.	1.4	18
52	Incomplete Label Multi-Task Deep Learning for Spatio-Temporal Event Subtype Forecasting. Proceedings of the AAAI Conference on Artificial Intelligence, 2019, 33, 3638-3646.	3.6	18
53	Mining geophysical parameters through decision-tree analysis to determine correlation with tropical cyclone development. Computers and Geosciences, 2009, 35, 309-316.	2.0	17
54	Daytime Rainy Cloud Detection and Convective Precipitation Delineation Based on a Deep Neural Network Method Using GOES-16 ABI Images. Remote Sensing, 2019, 11, 2555.	1.8	17

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55	A spatiotemporal data collection of viral cases for COVID-19 rapid response. Big Earth Data, 2021, 5, 90-111.	2.0	17
56	Towards intelligent geospatial data discovery: a machine learning framework for search ranking. International Journal of Digital Earth, 2018, 11, 956-971.	1.6	16
57	A hierarchical indexing strategy for optimizing Apache Spark with HDFS to efficiently query big geospatial raster data. International Journal of Digital Earth, 2020, 13, 410-428.	1.6	16
58	Web Map Server Performance and Client Design Principles. GIScience and Remote Sensing, 2007, 44, 320-333.	2.4	15
59	Optimizing an index with spatiotemporal patterns to support GEOSS Clearinghouse. International Journal of Geographical Information Science, 2014, 28, 1459-1481.	2.2	15
60	Reconstructing Sessions from Data Discovery and Access Logs to Build a Semantic Knowledge Base for Improving Data Discovery. ISPRS International Journal of Geo-Information, 2016, 5, 54.	1.4	14
61	A comprehensive methodology for discovering semantic relationships among geospatial vocabularies using oceanographic data discovery as an example. International Journal of Geographical Information Science, 2017, 31, 2310-2328.	2.2	14
62	A loosely integrated data configuration strategy for web-based participatory modeling. GIScience and Remote Sensing, 2019, 56, 670-698.	2.4	14
63	A Smart Web-Based Geospatial Data Discovery System with Oceanographic Data as an Example. ISPRS International Journal of Geo-Information, 2018, 7, 62.	1.4	13
64	Big Data and Cloud Computing. , 2020, , 325-355.		13
65	The GEOSS clearinghouse high performance search engine. , 2011, , .		12
66	Introduction to big geospatial data research. Annals of GIS, 2014, 20, 227-232.	1.4	12
67	A Generic Framework for Using Multi-Dimensional Earth Observation Data in GIS. Remote Sensing, 2016, 8, 382.	1.8	12
68	COVID-Scraper: An Open-Source Toolset for Automatically Scraping and Processing Global Multi-Scale Spatiotemporal COVID-19 Records. IEEE Access, 2021, 9, 84783-84798.	2.6	12
69	Establishing a sustainable and cross-boundary geospatial cyberinfrastructure to enable polar research. Computers and Geosciences, 2011, 37, 1721-1726.	2.0	11
70	Generating seamless surfaces for transport and dispersion modeling in GIS. GeoInformatica, 2012, 16, 307-327.	2.0	11
71	A Semantic Search Engine for Spatial Web Portals. , 2008, , .		10
72	A High Performance Web-Based System for Analyzing and Visualizing Spatiotemporal Data for Climate Studies. Lecture Notes in Computer Science, 2013, , 190-198.	1.0	10

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73	A visualization-enhanced graphical user interface for geospatial resource discovery. Annals of GIS, 2013, 19, 109-121.	1.4	10
74	Forming a global monitoring mechanism and a spatiotemporal performance model for geospatial services. International Journal of Geographical Information Science, 2015, 29, 375-396.	2.2	10
75	Using spatiotemporal patterns to optimize Earth Observation Big Data access: Novel approaches of indexing, service modeling and cloud computing. Computers, Environment and Urban Systems, 2018, 72, 191-203.	3.3	10
76	Contemporary Computing Technologies for Processing Big Spatiotemporal Data. , 2015, , 327-351.		9
77	Developing Subdomain Allocation Algorithms Based on Spatial and Communicational Constraints to Accelerate Dust Storm Simulation. PLoS ONE, 2016, 11, e0152250.	1.1	9
78	A State-Level Socioeconomic Data Collection of the United States for COVID-19 Research. Data, 2020, 5, 118.	1.2	9
79	Phased Implementation of COVID-19 Vaccination: Rapid Assessment of Policy Adoption, Reach and Effectiveness to Protect the Most Vulnerable in the US. International Journal of Environmental Research and Public Health, 2021, 18, 7665.	1.2	9
80	WebGIS performance issues and solutions. , 2011, , 121-138.		9
81	Digital Earth Challenges and Future Trends. , 2020, , 811-827.		9
82	Rapid Perception of Public Opinion in Emergency Events through Social Media. Natural Hazards Review, 2022, 23, .	0.8	9
83	A spatial web service client based on Microsoft Bing Maps. , 2011, , .		8
84	Registration of Long-Strip Terrestrial Laser Scanning Point Clouds Using RANSAC and Closed Constraint Adjustment. Remote Sensing, 2016, 8, 278.	1.8	8
85	A 3D multi-threshold, region-growing algorithm for identifying dust storm features from model simulations. International Journal of Geographical Information Science, 2017, 31, 939-961.	2.2	8
86	A Cloud-Based Framework for Large-Scale Log Mining through Apache Spark and Elasticsearch. Applied Sciences (Switzerland), 2019, 9, 1114.	1.3	8
87	PreciPatch: A Dictionary-based Precipitation Downscaling Method. Remote Sensing, 2020, 12, 1030.	1.8	8
88	Implementing computing techniques to accelerate network GIS. , 2006, 6418, 429.		7
89	An interoperable spatiotemporal weather radar data dissemination system. International Journal of Remote Sensing, 2009, 30, 1313-1326.	1.3	7
90	Geospatial cloud computing and big data. Computers, Environment and Urban Systems, 2017, 61, 119.	3.3	7

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91	Spatiotemporal Patterns and Driving Factors on Crime Changing During Black Lives Matter Protests. ISPRS International Journal of Geo-Information, 2020, 9, 640.	1.4	7
92	Improving search ranking of geospatial data based on deep learning using user behavior data. Computers and Geosciences, 2020, 142, 104520.	2.0	7
93	Evolution and Computing Challenges of Distributed GIS. Annals of GIS, 2005, 11, 61-69.	1.4	6
94	Geospatial cyberinfrastructure (GCI). Computers, Environment and Urban Systems, 2010, 34, 263.	3.3	6
95	Data-intensive Spatial Indexing on the Clouds. Procedia Computer Science, 2013, 18, 2615-2618.	1.2	6
96	Open-air grape classification and its application in parcel-level risk assessment of late frost in the eastern Helan Mountains. ISPRS Journal of Photogrammetry and Remote Sensing, 2021, 174, 132-150.	4.9	6
97	Impact of COVID-19 containment and closure policies on tropospheric nitrogen dioxide: A global perspective. Environment International, 2022, 158, 106887.	4.8	6
98	Distributed Geospatial Information Service. , 2006, , 103-120.		6
99	Cloud computing for ocean and atmospheric science. , 2016, , .		5
100	A framework for natural phenomena movement tracking â€“ Using 4D dust simulation as an example. Computers and Geosciences, 2018, 121, 53-66.	2.0	5
101	Data Compression for Network GIS. , 2008, , 209-213.		5
102	A high spatiotemporal resolution framework for urban temperature prediction using IoT data. Computers and Geosciences, 2022, 159, 104991.	2.0	5
103	High-resolution spatial interpolation on cloud platforms. , 2013, , .		4
104	3D modelling strategy for weather radar data analysis. Environmental Earth Sciences, 2018, 77, 1.	1.3	4
105	Utilizing MapReduce to Improve Probe-Car Track Data Mining. ISPRS International Journal of Geo-Information, 2018, 7, 287.	1.4	4
106	Using Semantic Search and Knowledge Reasoning to Improve the Discovery of Earth Science Records. International Journal of Applied Geospatial Research, 2014, 5, 44-58.	0.2	4
107	Spatiotemporal Trends and Variations of the Rainfall Amount, Intensity, and Frequency in TRMM Multi-satellite Precipitation Analysis (TMPA) Data. Remote Sensing, 2021, 13, 4629.	1.8	4
108	Earth information exchange: sharing earth science information through interoperable approach and cyber infrastructure. , 2007, , .		3

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109	An experimental study of open-source cloud platforms for dust storm forecasting. , 2012, , .		3
110	Improving the Non-Hydrostatic Numerical Dust Model by Integrating Soil Moisture and Greenness Vegetation Fraction Data with Different Spatiotemporal Resolutions. PLoS ONE, 2016, 11, e0165616.	1.1	3
111	Integrating GIScience Application Through Mashup. Geospatial Technology and the Role of Location in Science, 2019, , 87-112.	0.2	3
112	An Integrated Data Analytics Platform. Frontiers in Marine Science, 2019, 6, .	1.2	3
113	An Open-Source Workflow for Spatiotemporal Studies with COVID-19 as an Example. ISPRS International Journal of Geo-Information, 2022, 11, 13.	1.4	3
114	Spatial Web Portal for Building Spatial Data Infrastructure. Annals of GIS, 2006, 12, 38-43.	1.4	2
115	Sharing Earth Science Information to Support the Global Earth Observing System of Systems (GEOSS). , 2008, , .		2
116	A service visualization tool for spatial web portal. , 2011, , .		2
117	Hyperspectral Infrared Sounder Cloud Detection Using Deep Neural Network Model. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	1.4	2
118	An On-Demand Service for Managing and Analyzing Arctic Sea Ice High Spatial Resolution Imagery. Data, 2020, 5, 39.	1.2	2
119	Accelerating Geocomputation with Cloud Computing. , 2013, , 41-51.		2
120	A Query Understanding Framework for Earth Data Discovery. Applied Sciences (Switzerland), 2020, 10, 1127.	1.3	2
121	Tropospheric Nitrogen Dioxide Increases Past Pre-Pandemic Levels Due to Economic Reopening in India. Frontiers in Environmental Science, 0, 10, .	1.5	2
122	Remote sensing and GIS for regional environmental applications. , 2003, , .		1
123	A Distributed GIS for Managing Shanghai Landscape Resources. Annals of GIS, 2005, 11, 29-39.	1.4	1
124	Introduction to Computing and Computational Issues of Distributed GIS. Annals of GIS, 2005, 11, 1-3.	1.4	1
125	A semantic-enabled meta-catalogue for intelligent geospatial information discovery. , 2009, , .		1
126	Thinking and computing spatiotemporally to enable cloud computing and science discoveries. , 2011, , .		1

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127	Utilizing high spatiotemporal resolution soil moisture for dust storm modeling. , 2013, , .		1
128	Near Earth object mitigation studies. , 2016, , .		1
129	Planetary Defense Mitigation Gateway: A One-Stop Gateway for Pertinent PD-Related Contents. Data, 2019, 4, 47.	1.2	1
130	Integrating memory-mapping and N-dimensional hash function for fast and efficient grid-based climate data query. Annals of GIS, 2021, 27, 57-69.	1.4	1
131	Cloud, Edge, and Mobile Computing for Smart Cities. Urban Book Series, 2021, , 757-795.	0.3	1
132	Distributed Geospatial Computing (DGC). , 2008, , 246-249.		1
133	Redefining the possibility of digital Earth and geosciences with spatial cloud computing. , 0, .		1
134	Geoinformation Computing Platforms. , 2010, , 79-125.		1
135	Mashing up Geographic Information for Emergency Responseâ€"An Earthquake Prototype. Journal of Geographic Information System, 2014, 06, 533-547.	0.3	1
136	Design and Implementation of an Integrated WMS Service Portal. , 2006, , .		0
137	An Interoperable Transportation Framework Data Service. , 2006, , .		0
138	Utilizing Grid Computing to Support Near Real-Time Geospatial Applications. , 2008, , .		0
139	Using progressive transmission of 3D/4D geospatial information over the Internet to facilitate geovisualization in World Wind. , 2009, , .		0
140	Earth science data records sharing supported by the Spatial Web Portal. , 2010, , .		0
141	Environmental Informatics: Advancing Data Intensive Sciences to Solve Environmental Problems. , 2011, , 1-14.		0
142	Preface to the Third IEEE ICDM Workshop on Knowledge Discovery from Climate Data. , 2011, , .		0
143	Leveraging cloud computing to speedup user access log mining. , 2016, , .		0
144	An architecture for mitigating near earth object's impact to the earth. , 2017, , .		0

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145	New Metrics for Assessing the State Performance in Combating the COVIDâ€19 Pandemic. GeoHealth, 2021, 5, e2021GH000450.	1.9	0
146	Spatiotemporal Analysis of Sea Ice Leads in the Arctic Ocean Retrieved from IceBridge Laxon Line Data 2012â€“2018. Remote Sensing, 2021, 13, 4177.	1.8	0
147	Advanced Geoinformation Science. , 2010, , 1-15.		0
148	Geoscience application challenges to computing infrastructures. , 2013, , 3-18.		0
149	Handling intensities of data, computation, concurrent access, and spatiotemporal patterns. , 2013, , 275-294.		0
150	GEOSS Clearinghouse. , 2014, , 31-54.		0
151	Using Semantic Search and Knowledge Reasoning to Improve the Discovery of Earth Science Records. , 2016, , 1375-1389.		0
152	Distributed Geospatial Computing (DGC). , 2016, , 1-5.		0
153	Distributed Geospatial Computing (DGC). , 2017, , 484-489.		0
154	Data Compression for Network GIS. , 2017, , 418-422.		0
155	Spatiotemporal analysis of medical resource deficiencies in the U.S. under COVID-19 pandemic. , 2020, 15, e0240348.		0
156	Spatiotemporal analysis of medical resource deficiencies in the U.S. under COVID-19 pandemic. , 2020, 15, e0240348.		0
157	Spatiotemporal analysis of medical resource deficiencies in the U.S. under COVID-19 pandemic. , 2020, 15, e0240348.		0
158	Spatiotemporal analysis of medical resource deficiencies in the U.S. under COVID-19 pandemic. , 2020, 15, e0240348.		0
159	Discovering Precursors to Tropical Cyclone Rapid Intensification in the Atlantic Basin Using Spatiotemporal Data Mining. Atmosphere, 2022, 13, 882.	1.0	0