Alexander Klippel

List of Publications by Year
in descending order

		331670	345221
123	1,959	21	36
papers	citations	h-index	g-index

127	127	127	1138
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Structural Salience of Landmarks for Route Directions. Lecture Notes in Computer Science, 2005, , 347-362.	1.3	144
2	Wayfinding choremesâ€"a language for modeling conceptual route knowledge. Journal of Visual Languages and Computing, 2005, 16, 311-329.	1.8	92
3	Transforming Earth Science Education Through Immersive Experiences: Delivering on a Long Held Promise. Journal of Educational Computing Research, 2019, 57, 1745-1771.	5.5	84
4	Immersive Virtual Reality as an Effective Tool for Second Language Vocabulary Learning. Languages, 2019, 4, 13.	0.6	84
5	Pictorial Representations of Routes: Chunking Route Segments during Comprehension. , 2002, , 11-33.		69
6	Wayfinding Choremes. Lecture Notes in Computer Science, 2003, , 301-315.	1.3	58
7	The value of being there: toward a science of immersive virtual field trips. Virtual Reality, 2020, 24, 753-770.	6.1	58
8	Wayfinding Behaviors in Complex Buildings. Environment and Behavior, 2016, 48, 482-510.	4.7	57
9	Urban granularitiesâ€"a data structure for cognitively ergonomic route directions. GeoInformatica, 2009, 13, 223-247.	2.7	56
10	Spatial symbol systems and spatial cognition: A computer science perspective on perception-based symbol processing. Behavioral and Brain Sciences, 1999, 22, 616-617.	0.7	51
11	Wayfinding in Libraries: Can Problems Be Predicted?. Journal of Map and Geography Libraries, 2012, 8, 21-38.	0.1	50
12	A Model for Context-Specific Route Directions. Lecture Notes in Computer Science, 2005, , 58-78.	1.3	45
13	Walking through the forests of the future: using data-driven virtual reality to visualize forests under climate change. International Journal of Geographical Information Science, 2021, 35, 1155-1178.	4.8	43
14	You-Are-Here Maps: Creating Spatial Awareness through Map-like Representations. Spatial Cognition and Computation, 2010, 10, 83-93.	1.2	42
15	Analysing spatio-temporal autocorrelation with LISTA-Viz. International Journal of Geographical Information Science, 2010, 24, 1515-1526.	4.8	41
16	Linguistic and Nonlinguistic Turn Direction Concepts. , 2007, , 354-372.		37
17	Identifying factors of geographic event conceptualisation. International Journal of Geographical Information Science, 2008, 22, 183-204.	4.8	36
18	Star Plots: How Shape Characteristics Influence Classification Tasks. Cartography and Geographic Information Science, 2009, 36, 149-163.	3.0	36

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19	Desktop versus immersive virtual environments: effects on spatial learning. Spatial Cognition and Computation, 2020, 20, 328-363.	1.2	31
20	Acquisition and transfer of spatial knowledge during wayfinding.. Journal of Experimental Psychology: Learning Memory and Cognition, 2019, 45, 1364-1386.	0.9	31
21	Algorithms for Reliable Navigation and Wayfinding. Lecture Notes in Computer Science, 2007, , 308-326.	1.3	27
22	Interpreting Spatial Patterns: An Inquiry Into Formal and Cognitive Aspects of Tobler's First Law of Geography. Annals of the American Association of Geographers, 2011, 101, 1011-1031.	3.0	26
23	Collaborating remotely: an evaluation of immersive capabilities on spatial experiences and team membership. International Journal of Digital Earth, 2018, 11, 420-436.	3.9	22
24	Where are we now? Re-visiting the Digital Earth through human-centered virtual and augmented reality geovisualization environments. International Journal of Digital Earth, 2019, 12, 119-122.	3.9	22
25	Virtual reality for student learning: Understanding individual differences. Human Behaviour and Brain, 2020, , 28-36.	0.4	22
26	Spatial Information Theory Meets Spatial Thinking: Is Topology the Rosetta Stone of Spatio-temporal Cognition?. Annals of the American Association of Geographers, 2012, 102, 1310-1328.	3.0	21
27	Card Sorting For Cartographic Research and Practice. Cartography and Geographic Information Science, 2011, 38, 89-99.	3.0	20
28	The Interaction of Landmarks and Map Alignment in You-Are-Here Maps. Cartographic Journal, 2016, 53, 43-54.	1.5	20
29	The Endpoint Hypothesis: A Topological-Cognitive Assessment of Geographic Scale Movement Patterns. Lecture Notes in Computer Science, 2009, , 177-194.	1.3	20
30	Harnessing the power of immersive virtual reality - visualization and analysis of 3D earth science data sets. Geo-Spatial Information Science, 2019, 22, 237-250.	5.3	19
31	Geospatial Information Visualization and Extended Reality Displays. , 2020, , 229-277.		19
32	Colour-Enhanced Star Plot Glyphs: Can Salient Shape Characteristics Be Overcome?. Cartographica, 2009, 44, 217-231.	0.4	18
33	Immersive landscapes: modelling ecosystem reference conditions in virtual reality. Landscape Ecology, 2022, 37, 1293-1309.	4.2	18
34	Scale - Unexplored Opportunities for Immersive Technologies in Place-based Learning. , 2019, , .		17
35	The Cognitive Reality of Schematic Maps. , 2005, , 55-71.		16
36	Evaluation of noise annotation lines: using noise to represent thematic uncertainty in maps. Cartography and Geographic Information Science, 2014, 41, 430-439.	3.0	16

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37	Research Framework for Immersive Virtual Field Trips. , 2019, , .		16
38	The Egenhoferâ€“Cohn Hypothesis or, Topological Relativity?. Lecture Notes in Geoinformation and Cartography, 2013, , 195-215.	1.0	16
39	Analyzing Cognitive Conceptualizations Using Interactive Visual Environments. Cartography and Geographic Information Science, 2011, 38, 52-68.	3.0	15
40	Free Classification of Canadian and American Emergency Management Map Symbol Standards. Cartographic Journal, 2012, 49, 350-360.	1.5	15
41	Building a corpus of spatial relational expressions extracted from web documents. , 2014, , .		13
42	Domains of uncertainty visualization research: a visual summary approach. Cartography and Geographic Information Science, 2017, 44, 296-309.	3.0	13
43	Reasoning about Cardinal Directions Using Grids as Qualitative Geographic Coordinates. Lecture Notes in Computer Science, 1999, , 205-220.	1.3	13
44	Perceptually Induced Distortions in Cognitive Maps. Lecture Notes in Computer Science, 2005, , 204-213.	1.3	13
45	Using space syntax to understand knowledge acquisition and wayfinding in indoor environments. , 2010, , .		12
46	Immersive Analytics for Multi-objective Dynamic Integrated Climate-Economy (DICE) Models. , 2016, , .		12
47	A Comparison of Visual Attention Guiding Approaches for 360Â° Image-Based VR Tours. , 2020, , .		12
48	Longitudinal Effects in the Effectiveness of Educational Virtual Field Trips. Journal of Educational Computing Research, 2022, 60, 1008-1034.	5.5	12
49	Immersive Place-based Learning â€“ An Extended Research Framework. , 2020, , .		11
50	Cognitively Ergonomic Route Directions. , 2009, , 230-238.		11
51	Visualizing Natural Environments from Data in Virtual Reality: Combining Realism and Uncertainty. , 2019, , .		10
52	Visualizing Ecological Data in Virtual Reality. , 2019, , .		10
53	Topologically Characterized Movement Patterns: A Cognitive Assessment. Spatial Cognition and Computation, 2009, 9, 233-261.	1.2	9
54	The Effect of Motion in Graphical User Interfaces. Lecture Notes in Computer Science, 2003, , 12-21.	1.3	9

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55	Before or After: Prepositions in Spatially Constrained Systems. Lecture Notes in Computer Science, 2007, , 453-469.	1.3	9
56	Cognitive Invariants of Geographic Event Conceptualization: What Matters and What Refines?. Lecture Notes in Computer Science, 2010, , 130-144.	1.3	9
57	CrowdXR - Pitfalls and Potentials of Experiments with Remote Participants. , 2021, , .		9
58	Immersive storm surge flooding: Scale and risk perception in virtual reality. Journal of Environmental Psychology, 2022, 80, 101764.	5.1	9
59	Virtual strike and dip â€“ advancing inclusive and accessible field geology. Geoscience Communication, 2022, 5, 29-53.	0.9	9
60	Learning About Forest Futures Under Climate Change Through Transdisciplinary Collaboration Across Traditional and Western Knowledge Systems. , 2019, , 153-184.		8
61	Fundamental Cognitive Concepts of Space (and Time): Using Cross-Linguistic, Crowdsourced Data to Cognitively Calibrate Modes of Overlap. Lecture Notes in Computer Science, 2013, , 377-396.	1.3	8
62	The Effects of Visual Realism on Spatial Memory and Exploration Patterns in Virtual Reality. , 2020, , .		8
63	Automatic Extraction of Destinations, Origins and Route Parts from Human Generated Route Directions. Lecture Notes in Computer Science, 2010, , 279-294.	1.3	7
64	Immersive Learning in the Wild: A Progress Report. Communications in Computer and Information Science, 2019, , 3-15.	0.5	7
65	Learning in the Field: Comparison of Desktop, Immersive Virtual Reality, and Actual Field Trips for Place-Based STEM Education. , 2020, , .		7
66	For the Many, Not the One: Designing Low-Cost Joint VR Experiences for Place-Based Learning. Lecture Notes in Computer Science, 2019, , 126-148.	1.3	7
67	The role of structure and function in the conceptualization of direction. , 2012, , 102-119.		7
68	Exploring the effects of geographic scale on spatial learning. Cognitive Research: Principles and Implications, 2020, 5, 14.	2.0	7
69	iVR for the geosciences. , 2017, , .		6
70	From Archive, to Access, to Experienceâ€“â€“Historical Documents as a Basis for Immersive Experiences. Journal of Map and Geography Libraries, 2018, 14, 40-63.	0.1	6
71	Low-Cost VR Applications to Experience Real Word Places Anytime, Anywhere, and with Anyone. , 2019, , .		6
72	Psychophysical Evaluation for a Qualitative Semantic Image Categorisation and Retrieval Approach. Lecture Notes in Computer Science, 2010, , 321-330.	1.3	6

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73	Wayfinding Choreme Maps. Lecture Notes in Computer Science, 2006, , 94-108.	1.3	5
74	PITFALLS AND POTENTIALS OF CROWD SCIENCE: A META-ANALYSIS OF CONTEXTUAL INFLUENCES. ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences, 0, II-3/W5, 325-331.	0.0	5
75	GeoCAM: A geovisual analytics workspace to contextualize and interpret statements about movement. Journal of Spatial Information Science, 2011, , .	1.2	5
76	Movement Choremes: Bridging Cognitive Understanding and Formal Characterizations of Movement Patterns¹. Topics in Cognitive Science, 2011, 3, 722-740.	1.9	4
77	Formally grounding spatio-temporal thinking. Cognitive Processing, 2012, 13, 209-214.	1.4	4
78	Special issue introduction: Approaching spatial uncertainty visualization to support reasoning and decision making. Spatial Cognition and Computation, 2016, 16, 97-105.	1.2	4
79	Citizen Science Land Cover Classification Based on Ground and Aerial Imagery. Lecture Notes in Computer Science, 2015, , 289-305.	1.3	4
80	Move The Object or Move The User: The Role of Interaction Techniques on Embodied Learning in VR. Frontiers in Virtual Reality, 2021, 2, .	3.7	4
81	Developing and Evaluating VR Field Trips. Lecture Notes in Geoinformation and Cartography, 2018, , 105-110.	1.0	4
82	Identifying destinations automatically from human generated route directions. , 2011, , .		3
83	Exploring Regional Variation in Spatial Language Using Spatially Stratified Web-Sampled Route Direction Documents. Spatial Cognition and Computation, 2014, 14, 255-283.	1.2	3
84	Immersive Technologies and Experiences for Archaeological Site Exploration and Analysis. Lecture Notes in Geoinformation and Cartography, 2018, , 307-314.	1.0	3
85	A FRAMEWORK FOR LOW-COST MULTI-PLATFORM VR AND AR SITE EXPERIENCES. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 0, XLII-2/W8, 263-270.	0.2	3
86	Quantifying space, understanding minds: A visual summary approach. Journal of Spatial Information Science, 2017, , .	1.2	3
87	Fostering Penetrative Thinking in Geosciences Through Immersive Experiences: A Case Study in Visualizing Earthquake Locations in 3D. , 2020, , .		3
88	The Effect of Virtual Agent Gender and Embodiment on the Experiences and Performance of Students in Virtual Field Trips. , 2020, , .		3
89	A Comparison of Visual Attention Guiding Approaches for 360Â° Image-Based VR Tours. , 2020, , .		3
90	Linking context and proximity through web corpus. , 2013, , .		2

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91	The cognition of change: scaling deformations in mind and spatial theories. Cartography and Geographic Information Science, 2015, 42, 224-234.	3.0	2
92	Conceptualizing Landscapes. Lecture Notes in Computer Science, 2015, , 268-288.	1.3	2
93	CZ Investigator: Learning About Critical Zones Through a VR Serious Game. , 2020, , .		2
94	Fostering Geological Thinking Through Virtual Strike and Dip Measurements. , 2021, , .		2
95	Influence of HMD Type and Spatial Ability on Experiences and Learning in Place-based Education. , 2021, , .		2
96	Investigations into the Cognitive Conceptualization and Similarity Assessment of Spatial Scenes. Lecture Notes in Computer Science, 2012, , 212-225.	1.3	2
97	Cognitively Ergonomic Route Directions. , 2013, , 250-257.		2
98	Design of a Serious Game to Inform the Public About the Critical Zone. , 2020, , .		2
99	Place-based education through immersive virtual experiences â€" preparing biology students for the field. Journal of Biological Education, 0, , 1-24.	1.5	2
100	Geographic event conceptualization. Cognitive Processing, 2006, 7, 52-54.	1.4	1
101	Human factors in GIScience laboratory at the Pennsylvania State University. Cognitive Processing, 2009, 10, 175-183.	1.4	1
102	Towards contextualized models of spatial relations. , 2015, , .		1
103	Warping Space and Time-Reviving Educational Tools of the 19th Century. , 2019, , .		1
104	Extended Realities â€" How Changing Scale Affects Spatial Learning. , 2020, , .		1
105	HMD Type and Spatial Ability: Effects on the Experiences and Learning of Students in Immersive Virtual Field Trips. , 2021, , .		1
106	Place-Based Learning Through a Proxy - Variations in the Perceived Benefits of a Virtual Tour. , 2021, , .		1
107	Reference frames and geographic scale: understanding their relationship in environmental learning. Cartography and Geographic Information Science, 2022, 49, 70-84.	3.0	1
108	Boundaries and Prototypes in Categorizing Direction. Lecture Notes in Computer Science, 2014, , 92-107.	1.3	1

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109	Evaluating the Cognitive Adequacy of the DLine-Region Calculus. Advances in Geographic Information Science, 2013, , 91-106.	0.6	1
110	Cognitive Evaluation of Spatial Formalisms. International Journal of Cognitive Informatics and Natural Intelligence, 2014, 8, 1-17.	0.4	1
111	Intuitive Direction Concepts. The Baltic International Yearbook of Cognition, Logic and Communication, 2015, 10, .	0.4	1
112	Human Interpretation of Trade-Off Diagrams in Multi-Objective Problems: Implications for Developing Interactive Decision Support Systems. , 2019, , .		1
113	SCIENCE EDUCATION THROUGH VIRTUAL EXPERIENCES - THE STRIKE AND DIP (SAD) TOOL. , 2020, , .		1
114	Mixed or Virtual: Does Device Type Matter in Human-ECA Interactions. , 2020, , .		1
115	Remote iVR for Nutrition Education: From Design to Evaluation. Frontiers in Computer Science, 0, 4, .	2.8	1
116	Investigating intuitive granularities of overlap relations. , 2013, , .		0
117	Conceptualizing the Remote Site Experience through Immersive Technology: Unraveling the Santa Marta Favela from Studentsâ€™ Perspectives. Landscape Journal, 2021, 39, 31-49.	0.3	0
118	Report on the first workshop on Movement Pattern Analysis MPA10. Journal of Spatial Information Science, 2011, , .	1.2	0
119	The Role of Space in Remote Collaborations: An Exploration of Immersive Technology Attributes on Co-presence and Team Membership. International Conference on GIScience Short Paper Proceedings, 0, 1, .	0.0	0
120	TOWARD AN IMMERSIVE SCIENCE OF PLACE-BASED EDUCATION. , 2019, , .		0
121	Wayfinding Choremes â€“ Conceptual Modeling for Pictorial Route Directions. , 2019, , 408-408.		0
122	From spatial to platial - the role and future of immersive technologies in the spatial sciences. Journal of Spatial Information Science, 2020, , .	1.2	0
123	FROM IMMERSIVE VR TO DESKTOP VR AND BACK: VISIONS FOR REMOTE LEARNING IN THE GEOSCIENCES. , 2020, , .		0