Doug A Bowman

List of Publications by Year
in descending order

154 papers	7,176 citations	117625 34 h-index	110387 64 g-index
162 all docs	162 docs citations	162 times ranked	4958 citing authors

#	Article	IF	Citations
1	IEEE VR 2022 Introducing the Special Issue. IEEE Transactions on Visualization and Computer Graphics, 2022, 28, vi-vi.	4.4	0
2	Clean the Ocean: An Immersive VR Experience Proposing New Modifications to Go-Go and WiM Techniques. , 2022, , .		6
3	Validating the Benefits of Glanceable and Context-Aware Augmented Reality for Everyday Information Access Tasks. , 2022, , .		7
4	BuildAR: A Proof-of-Concept Prototype of Intelligent Augmented Reality in Construction. , 2022, , .		0
5	Mixed reality environment for learning sensing technology applications in Construction: A usability study. Advanced Engineering Informatics, 2022, 53, 101637.	8.0	16
6	Exploring Effect of Level of Storytelling Richness on Science Learning in Interactive and Immersive Virtual Reality. , 2022, , .		1
7	Virtual Loupes: An Augmented Reality Aid for Microsurgery. , 2021, , .		0
8	ARCritique: Supporting Remote Design Critique of Physical Artifacts through Collaborative Augmented Reality. , 2021, , .		1
9	Evaluating the Potential of Glanceable AR Interfaces for Authentic Everyday Uses. , 2021, , .		23
10	Designing immersive virtual reality stories with rich characters and high interactivity to promote learning of complex immunology concepts. , 2021, , .		1
11	Message from the Editor-in-Chief and from the Associate Editor-in-Chief. IEEE Transactions on Visualization and Computer Graphics, 2021, 27, 4085-4085.	4.4	0
12	Designing Historical Tours for Head-Worn AR. , 2021, , .		3
13	Glanceable AR: Evaluating Information Access Methods for Head-Worn Augmented Reality. , 2020, , .		36
14	Occlusion Management Techniques for Everyday Glanceable AR Interfaces. , 2020, , .		6
15	Message from the Editor-in-Chief and from the Associate Editor-in-Chief. IEEE Transactions on Visualization and Computer Graphics, 2020, 26, 3386-3386.	4.4	0
16	Glanceable AR: Evaluating Information Access Methods for Head-Worn Augmented Reality. , 2020, , .		1
17	Get the job! An immersive simulation of sensory overload. , 2020, , .		0
18	Pseudo-Haptic Display of Mass and Mass Distribution During Object Rotation in Virtual Reality. IEEE Transactions on Visualization and Computer Graphics, 2020, 26, 2094-2103.	4.4	22

#	Article	IF	Citations
19	Introducing the IEEE Virtual Reality 2020 Special Issue. IEEE Transactions on Visualization and Computer Graphics, 2020, 26, iv-v.	4.4	1
20	Embracing Physical Keyboards for Virtual Reality. Computer, 2020, 53, 9-10.	1.1	4
21	Save the Space Elevator: An Escape Room Scenario Involving Passive Haptics in Mixed Reality. , 2019, , .		1
22	Enhanced Geometric Techniques for Point Marking in Model-Free Augmented Reality. , 2019, , .		1
23	Immersive Analytics: Theory and Research Agenda. Frontiers in Robotics and AI, 2019, 6, 82.	3.2	45
24	Walking with adaptive augmented reality workspaces. , 2019, , .		32
25	Enhanced Geometric Techniques for Point Marking in Model-Free Augmented Reality. , 2019, , .		8
26	Message from the Editor-in-Chief and from the Associate Editor-in-Chief. IEEE Transactions on Visualization and Computer Graphics, 2019, 25, 3049-3049.	4.4	0
27	Exploring Effects of Interactivity on Learning with Interactive Storytelling in Immersive Virtual Reality. , 2019, , .		35
28	Gaze Direction Visualization Techniques for Collaborative Wide-Area Model-Free Augmented Reality. , 2019, , .		15
29	Toolsets for the Development of Highly Interactive and Information-Rich Environments. The International Journal of Virtual Reality, 2019, 3, 1-19.	2.2	3
30	New Directions in 3D User Interfaces. The International Journal of Virtual Reality, 2019, 5, 3-14.	2.2	91
31	An Adaptive Interface for Spatial Augmented Reality Workspaces. , 2019, , .		1
32	Supporting Social Engagement for Young Audiences with Serious Games and Virtual Environments in Museums. Springer Series on Cultural Computing, 2018, , 19-43.	0.6	9
33	Climb, Direct, Stack: Smart Interfaces for ELeague Contest. , 2018, , .		0
34	Force Push: Exploring Expressive Gesture-to-Force Mappings for Remote Object Manipulation in Virtual Reality. Frontiers in ICT, 2018, 5, .	3.6	12
35	Force Push: Exploring Expressive Gesture-to-Force Mappings for Indirect 3D Object Manipulation. , 2018, , .		0
36	Experiencing an Invisible World War I Battlefield Through Narrative-Driven Redirected Walking in Virtual Reality. , 2018, , .		18

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37	Effect of Volumetric Displays on Depth Perception in Augmented Reality. , 2018, , .		6
38	"Pump that press!". , 2018, , .		0
39	Evaluation of Environment-Independent Techniques for 3D Position Marking in Augmented Reality. , 2018, , .		1
40	Move the Object or Move Myself? Walking vs. Manipulation for the Examination of 3D Scientific Data. Frontiers in ICT, 2018, 5, .	3.6	22
41	Bookshelf and Bird: Enabling Real Walking in Large VR Spaces through Cell-Based Redirection. , 2017, , .		13
42	User experience with semi-natural locomotion techniques in virtual reality. , 2017, , .		10
43	Amplified Head Rotation in Virtual Reality and the Effects on 3D Search, Training Transfer, and Spatial Orientation. IEEE Transactions on Visualization and Computer Graphics, 2017, 23, 1880-1895.	4.4	56
44	Relative Effects of Real-world and Virtual-World Latency on an Augmented Reality Training Task: An AR Simulation Experiment. Frontiers in ICT, 2017, 3, .	3.6	21
45	Bare-Hand Volume Cracker for Raw Volume Data Analysis. Frontiers in Robotics and AI, 2016, 3, .	3.2	2
46	Audience Involvement and Agency in Digital Games. , 2016, , .		9
47	A Taxonomy for Designing Walking-based Locomotion Techniques for Virtual Reality. , 2016, , .		22
48	Designing capsule, an input device to support the manipulation of biological datasets. , 2016, , .		2
49	Effects of field of regard and stereoscopy and the validity of MR simulation for visual analysis of scientific data. , 2016, , .		0
50	A classification of user tasks in visual analysis of volume data. , 2015, , .		9
51	Comparing the performance of natural, semi-natural, and non-natural locomotion techniques in virtual reality. , 2015, , .		6
52	Humanâ€robot Teaming for Rescue Missions: TeamÂViGIR's Approach to the 2013 DARPAÂRoboticsÂChallengeÂTrials. Journal of Field Robotics, 2015, 32, 352-377.	6.0	60
53	Design and evaluation of a visual acclimation aid for a semi-natural locomotion device. , 2015, , .		3
54	Interval Player: Designing a virtual musical instrument using in-air gestures. , 2015, , .		3

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55	Comparing the performance of natural, semi-natural, and non-natural locomotion techniques in virtual reality. , 2015, , .		57
56	CI-Spy: Designing A Mobile Augmented Reality System for Scaffolding Historical Inquiry Learning. , 2015, , .		11
57	Effects of Field of View and Visual Complexity on Virtual Reality Training Effectiveness for a Visual Scanning Task. IEEE Transactions on Visualization and Computer Graphics, 2015, 21, 794-807.	4.4	156
58	Small group learning with games in museums. , 2015, , .		11
59	[Poster] CI-Spy: Using mobile-AR for scaffolding historical inquiry learning. , 2014, , .		2
60	Evaluating the effects of orchestrated, game-based learning in virtual environments for informal education. , 2014, , .		28
61	Poster: Designing effective travel techniques with bare-hand interaction. , 2014, , .		15
62	C-OLiVE: Group co-located interaction in VEs for contextual learning. , 2014, , .		2
63	Effects of VR System Fidelity on Analyzing Isosurface Visualization of Volume Datasets. IEEE Transactions on Visualization and Computer Graphics, 2014, 20, 513-522.	4.4	67
64	Feasibility of Training Athletes for High-Pressure Situations Using Virtual Reality. IEEE Transactions on Visualization and Computer Graphics, 2014, 20, 606-615.	4.4	77
65	Hose task at the 2013 DARPA Robotics Challenge trials: Team ViGIR's results video. , 2014, , .		1
66	Message from the Paper Chairs and Guest Editors. IEEE Transactions on Visualization and Computer Graphics, 2014, 20, vi-vi.	4.4	1
67	Studying the Effects of Stereo, Head Tracking, and Field of Regard on a Small-Scale Spatial Judgment Task. IEEE Transactions on Visualization and Computer Graphics, 2013, 19, 886-896.	4.4	98
68	Validation of the MR Simulation Approach for Evaluating the Effects of Immersion on Visual Analysis of Volume Data. IEEE Transactions on Visualization and Computer Graphics, 2013, 19, 529-538.	4.4	28
69	Design and evaluation of 3D selection techniques based on progressive refinement. International Journal of Human Computer Studies, 2013, 71, 785-802.	5.6	44
70	The Effects of Visual Realism on Search Tasks in Mixed Reality Simulation. IEEE Transactions on Visualization and Computer Graphics, 2013, 19, 547-556.	4.4	73
71	Overview of team ViGIR's approach to the Virtual Robotics Challenge. , 2013, , .		8
72	Poster: 3D sketching and flexible input for surface design: A case study. , 2013, , .		1

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73	Volume cracker. , 2013, , .		18
74	Poster: Volume Cracker: A bimanual 3D interaction technique for analysis of raw volumetric data. , 2013, , .		2
75	Displays and Interaction for Virtual Travel. , 2013, , 147-175.		1
76	How spatial layout, interactivity, and persistent visibility affect learning with large displays. , 2012, , .		11
77	Design issues when using commodity gaming devices for virtual object manipulation. , 2012, , .		2
78	Examining the equivalence of simulated and real AR on a visual following and identification task. , 2012, , .		8
79	The effects of virtual character animation on spatial judgments. , 2012, , .		6
80	Poster: Design considerations for fabric-based input for surface design. , 2012, , .		0
81	A gaming interface using body gestures for collaborative navigation. , 2012, , .		1
82	A hand-held AR magic lens with user-perspective rendering. , 2012, , .		49
83	Collaborative navigation in virtual search and rescue. , 2012, , .		17
84	The effects of navigational control and environmental detail on learning in 3D virtual environments. , 2012, , .		12
85	Questioning naturalism in 3D user interfaces. Communications of the ACM, 2012, 55, 78-88.	4.5	1,113
86	Supporting cognitive processing with spatial information presentations in virtual environments. Virtual Reality, 2012, 16, 301-314.	6.1	44
87	Effects of Immersion on Visual Analysis of Volume Data. IEEE Transactions on Visualization and Computer Graphics, 2012, 18, 597-606.	4.4	115
88	Evaluating Display Fidelity and Interaction Fidelity in a Virtual Reality Game. IEEE Transactions on Visualization and Computer Graphics, 2012, 18, 626-633.	4.4	281
89	Considerations for the use of commercial video games in controlled experiments. Entertainment Computing, 2011, 2, 3-9.	2.9	40
90	Building blocks: A novel metaphor for solving 3D puzzles. , 2011, , .		0

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91	The role of Depth and Gestalt cues in information-rich virtual environments. International Journal of Human Computer Studies, 2011, 69, 30-51.	5.6	38
92	Design and evaluation of freehand menu selection interfaces using tilt and pinch gestures. International Journal of Human Computer Studies, 2011, 69, 551-562.	5.6	46
93	AirStroke. , 2011, , .		39
94	The effects of spatial layout and view control on cognitive processing. , 2011, , .		3
95	Effects of navigation design on Contextualized Video Interfaces. , 2011, , .		0
96	Rapid and accurate 3D selection by progressive refinement. , 2011, , .		78
97	3DUI 2010 Contest Grand Prize Winners. IEEE Computer Graphics and Applications, 2010, 30, 86-96, c3.	1.2	4
98	A human motor behavior model for distal pointing tasks. International Journal of Human Computer Studies, 2010, 68, 603-615.	5.6	124
99	The Effects of Higher Levels of Immersion on Procedure Memorization Performance and Implications for Educational Virtual Environments. Presence: Teleoperators and Virtual Environments, 2010, 19, 527-543.	0.6	110
100	The role of latency in the validity of AR simulation. , 2010, , .		50
101	Evaluating natural interaction techniques in video games. , 2010, , .		45
102	Simulation of Augmented Reality Systems in Purely Virtual Environments. Virtual Reality Conference (VR), Proceedings, IEEE, 2009, , .	0.0	59
103	A multiscale interaction technique for large, high-resolution displays. , 2009, , .		19
104	Evaluating the effects of tracker reliability and field of view on a target following task in augmented reality. , 2009, , .		7
105	Domain-Specific Design of 3D Interaction Techniques: An Approach for Designing Useful Virtual Environment Applications. Presence: Teleoperators and Virtual Environments, 2009, 18, 370-386.	0.6	14
106	Body-based interaction for desktop games. , 2009, , .		18
107	A natural, tiered and executable UIDL for 3D user interfaces based on Concept-Oriented Design. ACM Transactions on Computer-Human Interaction, 2009, 16, 1-36.	5.7	10
108	A replication study testing the validity of AR simulation in VR for controlled experiments. , 2009, , .		27

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109	3D User Interfaces. IEEE Computer Graphics and Applications, 2009, 29, 20-21.	1.2	11
110	Wayfinding techniques for multiScale virtual environments. , 2009, , .		12
111	Poster: A hybrid direct visual editing method for architectural massing study in virtual environments. , 2009, , .		2
112	Cooperative object manipulation in collaborative virtual environments. Journal of the Brazilian Computer Society, 2008, 14, 53-67.	1.3	29
113	Effects of Video Placement and Spatial Context Presentation on Path Reconstruction Tasks with Contextualized Videos. IEEE Transactions on Visualization and Computer Graphics, 2008, 14, 1755-1762.	4.4	14
114	3D User Interfaces: New Directions and Perspectives. IEEE Computer Graphics and Applications, 2008, 28, 20-36.	1.2	98
115	Tiered Developer-Centric Representations for 3D Interfaces: Concept-Oriented Design in Chasm. , 2008, , .		6
116	Tech-note: rapMenu: Remote Menu Selection Using Freehand Gestural Input. , 2008, , .		21
117	Quantifying the benefits of immersion for procedural training. , 2008, , .		38
118	Advantages of velocity-based scaling for distant 3D manipulation. , 2008, , .		30
119	Cooperative object manipulation in collaborative virtual environments. Journal of the Brazilian Computer Society, 2008, 14, 54-67.	1.3	12
120	Towards a system for reusable 3D interaction techniques. , 2007, , .		10
121	An Empirical Comparison of Task Sequences for Immersive Virtual Environments. , 2007, , .		5
122	Guest Editors' Introduction: Special Section on Virtual Reality. IEEE Transactions on Visualization and Computer Graphics, 2007, 13, 420-421.	4.4	0
123	The benefits of immersion for spatial understanding of complex underground cave systems. , 2007, , .		46
124	Contextualized Videos: Combining Videos with Environment Models to Support Situational Understanding. IEEE Transactions on Visualization and Computer Graphics, 2007, 13, 1568-1575.	4.4	37
125	Effects of information layout, screen size, and field of view on user performance in information-rich virtual environments. Computer Animation and Virtual Worlds, 2007, 18, 19-38.	1.2	22
126	Virtual Reality: How Much Immersion Is Enough?. Computer, 2007, 40, 36-43.	1.1	847

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127	Separating the effects of level of immersion and 3D interaction techniques. , 2006, , .		59
128	Supporting Distributed Spatial Collaboration: An Investigation of Navigation and Radar View Techniques. GeoInformatica, 2006, 10, 123-158.	2.7	6
129	Evaluating the effects of real world distraction on user performance in virtual environments. , 2006, , .		15
130	Development of a Virtual Reality Structural Analysis System. Journal of Architectural Engineering, 2005, 11, 156-164.	1.6	21
131	Resizing beyond widgets. , 2005, , .		11
132	Application of a Virtual Environment System in Building Sciences Education. Journal of Architectural Engineering, 2005, 11, 165-172.	1.6	12
133	Effects of information layout, screen size, and field of view on user performance in information-rich virtual environments. , 2005, , .		49
134	Quantifying the benefits of immersion for collaboration in virtual environments. , 2005, , .		48
135	Integrating 2D and 3D views for spatial collaboration. , 2005, , .		13
136	Evaluating the effects of frame of reference on spatial collaboration using desktop collaborative virtual environments. Virtual Reality, 2004, 7, 164.	6.1	15
137	Design and display of enhancing information in desktop information-rich virtual environments: challenges and techniques. Virtual Reality, 2004, 8, 41.	6.1	28
138	PathSim visualizer. , 2004, , .		17
139	Information-rich virtual environments. , 2003, , .		91
140	Cooperative object manipulation in immersive virtual environments. , 2002, , .		75
141	Text Input Techniques for Immersive Virtual Environments: An Empirical Comparison. Proceedings of the Human Factors and Ergonomics Society, 2002, 46, 2154-2158.	0.3	66
142	Empirical Comparison of Human Behavior and Performance with Different Display Devices for Virtual Environments. Proceedings of the Human Factors and Ergonomics Society, 2002, 46, 2134-2138.	0.3	41
143	Map-based navigation in a graphical MOO. Xrds, 2002, 9, 8-15.	0.3	3
144	A Survey of Usability Evaluation in Virtual Environments: Classification and Comparison of Methods. Presence: Teleoperators and Virtual Environments, 2002, 11, 404-424.	0.6	232

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145	A tool for the interactive 3D visualization of electronic structure in molecules and solids. Computers & Chemistry, 2002, 26, 313-319.	1.2	47
146	Testbed Evaluation of Virtual Environment Interaction Techniques. Presence: Teleoperators and Virtual Environments, 2001, 10, 75-95.	0.6	122
147	An Introduction to 3-D User Interface Design. Presence: Teleoperators and Virtual Environments, 2001, 10, 96-108.	0.6	232
148	The Simple Virtual Environment Library: An Extensible Framework for Building VE Applications. Presence: Teleoperators and Virtual Environments, 2000, 9, 187-208.	0.6	58
149	Maintaining Spatial Orientation during Travel in an Immersive Virtual Environment. Presence: Teleoperators and Virtual Environments, 1999, 8, 618-631.	0.6	102
150	The Educational Value of an Information-Rich Virtual Environment. Presence: Teleoperators and Virtual Environments, 1999, 8, 317-331.	0.6	97
151	Formalizing the Design, Evaluation, and Application of Interaction Techniques for Immersive Virtual Environments. Journal of Visual Languages and Computing, 1999, 10, 37-53.	1.8	200
152	Designing animal habitats within an immersive VE. IEEE Computer Graphics and Applications, 1998, 18, 9-13.	1.2	43
153	The Virtual Venue: User-Computer Interaction in Information-Rich Virtual Environments. Presence: Teleoperators and Virtual Environments, 1998, 7, 478-493.	0.6	42
154	An evaluation of techniques for grabbing and manipulating remote objects in immersive virtual environments. , 1997, , .		429