

Bedrich Benes

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/4929908/publications.pdf>

Version: 2024-02-01

148
papers

3,831
citations

136950

32
h-index

149698

56
g-index

155
all docs

155
docs citations

155
times ranked

2762
citing authors

#	ARTICLE	IF	CITATIONS
1	Stress relief. ACM Transactions on Graphics, 2012, 31, 1-11.	7.2	218
2	Quantification of Fossil Fuel CO ₂ Emissions on the Building/Street Scale for a Large U.S. City. Environmental Science & Technology, 2012, 46, 12194-12202.	10.0	211
3	A Survey on Procedural Modelling for Virtual Worlds. Computer Graphics Forum, 2014, 33, 31-50.	3.0	191
4	Clever Support: Efficient Support Structure Generation for Digital Fabrication. Computer Graphics Forum, 2014, 33, 117-125.	3.0	182
5	A Review of Simulators with Haptic Devices for Medical Training. Journal of Medical Systems, 2016, 40, 104.	3.6	152
6	Inverse Procedural Modelling of Trees. Computer Graphics Forum, 2014, 33, 118-131.	3.0	117
7	Interactive sketching of urban procedural models. ACM Transactions on Graphics, 2016, 35, 1-11.	7.2	103
8	Crops In Silico: Generating Virtual Crops Using an Integrative and Multi-scale Modeling Platform. Frontiers in Plant Science, 2017, 8, 786.	3.6	102
9	PackMerger: A 3D Print Volume Optimizer. Computer Graphics Forum, 2014, 33, 322-332.	3.0	97
10	Inverse design of urban procedural models. ACM Transactions on Graphics, 2012, 31, 1-11.	7.2	92
11	Inverse Procedural Modeling by Automatic Generation of L ³ systems. Computer Graphics Forum, 2010, 29, 665-674.	3.0	89
12	Interactive example-based terrain authoring with conditional generative adversarial networks. ACM Transactions on Graphics, 2017, 36, 1-13.	7.2	87
13	Building reconstruction using manhattan-world grammars. , 2010, , .		81
14	Hydraulic Erosion Using Smoothed Particle Hydrodynamics. Computer Graphics Forum, 2009, 28, 219-228.	3.0	80
15	Plastic trees. ACM Transactions on Graphics, 2012, 31, 1-10.	7.2	76
16	Dapper. ACM Transactions on Graphics, 2015, 34, 1-12.	7.2	74
17	Terrain generation using procedural models based on hydrology. ACM Transactions on Graphics, 2013, 32, 1-13.	7.2	71
18	Connected fermat spirals for layered fabrication. ACM Transactions on Graphics, 2016, 35, 1-10.	7.2	68

#	ARTICLE	IF	CITATIONS
19	Autonomous boids. <i>Computer Animation and Virtual Worlds</i> , 2006, 17, 199-206.	1.2	63
20	Interactive example-based urban layout synthesis. <i>ACM Transactions on Graphics</i> , 2008, 27, 1-10.	7.2	61
21	Automatic Extraction of Manhattan-World Building Masses from 3D Laser Range Scans. <i>IEEE Transactions on Visualization and Computer Graphics</i> , 2012, 18, 1627-1637.	4.4	61
22	A Review of Digital Terrain Modeling. <i>Computer Graphics Forum</i> , 2019, 38, 553-577.	3.0	60
23	Visualization of Simulated Urban Spaces: Inferring Parameterized Generation of Streets, Parcels, and Aerial Imagery. <i>IEEE Transactions on Visualization and Computer Graphics</i> , 2009, 15, 424-435.	4.4	55
24	Interactive design of urban spaces using geometrical and behavioral modeling. <i>ACM Transactions on Graphics</i> , 2009, 28, 1-10.	7.2	50
25	WorldBrush. <i>ACM Transactions on Graphics</i> , 2015, 34, 1-11.	7.2	50
26	Authoring landscapes by combining ecosystem and terrain erosion simulation. <i>ACM Transactions on Graphics</i> , 2017, 36, 1-12.	7.2	48
27	Hydraulic erosion. <i>Computer Animation and Virtual Worlds</i> , 2006, 17, 99-108.	1.2	46
28	Guided Procedural Modeling. <i>Computer Graphics Forum</i> , 2011, 30, 325-334.	3.0	44
29	Error-Bounded and Feature Preserving Surface Remeshing with Minimal Angle Improvement. <i>IEEE Transactions on Visualization and Computer Graphics</i> , 2017, 23, 2560-2573.	4.4	43
30	Authoring Hierarchical Road Networks. <i>Computer Graphics Forum</i> , 2011, 30, 2021-2030.	3.0	41
31	Large Scale Terrain Generation from Tectonic Uplift and Fluvial Erosion. <i>Computer Graphics Forum</i> , 2016, 35, 165-175.	3.0	40
32	Windy trees. <i>ACM Transactions on Graphics</i> , 2014, 33, 1-11.	7.2	39
33	Multiscale computational models can guide experimentation and targeted measurements for crop improvement. <i>Plant Journal</i> , 2020, 103, 21-31.	5.7	36
34	Terrain Modelling from Feature Primitives. <i>Computer Graphics Forum</i> , 2015, 34, 198-210.	3.0	33
35	Do Learners Recognize and Relate to the Emotions Displayed By Virtual Instructors?. <i>International Journal of Artificial Intelligence in Education</i> , 2021, 31, 134-153.	5.5	32
36	Inverse Procedural Modeling of Branching Structures by Inferring L-Systems. <i>ACM Transactions on Graphics</i> , 2020, 39, 1-13.	7.2	32

#	ARTICLE	IF	CITATIONS
37	Large-Scale Physics-Based Terrain Editing Using Adaptive Tiles on the GPU. IEEE Computer Graphics and Applications, 2011, 31, 35-44.	1.2	28
38	The positivity principle: do positive instructors improve learning from video lectures?. Educational Technology Research and Development, 2021, 69, 3101-3129.	2.8	27
39	FlyCam: Multitouch Gesture Controlled Drone Gimbal Photography. IEEE Robotics and Automation Letters, 2018, 3, 3717-3724.	5.1	26
40	Postevent Reconnaissance Image Documentation Using Automated Classification. Journal of Performance of Constructed Facilities, 2019, 33, .	2.0	25
41	Layered data representation for visual simulation of terrain erosion. , 0, , .		24
42	Interactive Modeling and Authoring of Climbing Plants. Computer Graphics Forum, 2017, 36, 49-61.	3.0	23
43	Sculpting Mountains: Interactive Terrain Modeling Based on Subsurface Geology. IEEE Transactions on Visualization and Computer Graphics, 2018, 24, 1756-1769.	4.4	23
44	Understanding and Exploiting Object Interaction Landscapes. ACM Transactions on Graphics, 2017, 36, 1-14.	7.2	22
45	Interactive Reconfiguration of Urban Layouts. IEEE Computer Graphics and Applications, 2008, 28, 38-47.	1.2	21
46	Sketching human character animations by composing sequences from large motion database. Visual Computer, 2014, 30, 213-227.	3.5	21
47	Proceduralization for Editing 3D Architectural Models. , 2016, , .		21
48	Voxel carvingâ€based 3D reconstruction of sorghum identifies genetic determinants of light interception efficiency. Plant Direct, 2020, 4, e00255.	1.9	21
49	Coupled segmentation and similarity detection for architectural models. ACM Transactions on Graphics, 2015, 34, 1-11.	7.2	19
50	Wood identification based on longitudinal section images by using deep learning. Wood Science and Technology, 2021, 55, 553-563.	3.2	19
51	Inverse procedural modeling of 3D models for virtual worlds. , 2016, , .		18
52	Undergraduate studentsâ€™ conceptual interpretation and perceptions of haptic-enabled learning experiences. International Journal of Educational Technology in Higher Education, 2017, 14, .	7.6	18
53	FOVEA: a new program to standardize the measurement of foveal pit morphology. PeerJ, 2016, 4, e1785.	2.0	18
54	TreePartNet. ACM Transactions on Graphics, 2021, 40, 1-16.	7.2	18

#	ARTICLE	IF	CITATIONS
55	Learning to reconstruct botanical trees from single images. ACM Transactions on Graphics, 2021, 40, 1-15.	7.2	18
56	Semi-Procudural Textures Using Point Process Texture Basis Functions. Computer Graphics Forum, 2020, 39, 159-171.	3.0	17
57	Connected Component Labeling in CUDA. , 2011, , 569-581.		16
58	Virtual climbing plants competing for space. , 0, , .		14
59	Urban ecosystem design. , 2011, , .		14
60	Woodification: User-Controlled Cambial Growth Modeling. Computer Graphics Forum, 2015, 34, 361-372.	3.0	14
61	Procedural Editing of 3D Building Point Clouds. , 2015, , .		14
62	Built-in Electric Field Minimization in (In, Ga)N Nanoheterostructures. Nano Letters, 2011, 11, 4515-4519.	9.1	13
63	Near-convex decomposition and layering for efficient 3D printing. Additive Manufacturing, 2018, 21, 383-394.	3.0	13
64	An algorithm for automatic dormant tree pruning. Applied Soft Computing Journal, 2021, 99, 106931.	7.2	13
65	Sorghum Segmentation by Skeleton Extraction. Lecture Notes in Computer Science, 2020, , 296-311.	1.3	13
66	Interactive design of urban spaces using geometrical and behavioral modeling. , 2009, , .		13
67	The Effects of Body Gestures and Gender on Viewer's Perception of Animated Pedagogical Agent's Emotions. Lecture Notes in Computer Science, 2020, , 169-186.	1.3	12
68	Proceduralization of Buildings at City Scale. , 2014, , .		11
69	Interactive Generation of Time-Evolving, Snow-Covered Landscapes with Avalanches. Computer Graphics Forum, 2018, 37, 497-509.	3.0	11
70	A Review of Training and Guidance Systems in Medical Surgery. Applied Sciences (Switzerland), 2020, 10, 5752.	2.5	11
71	Improving the learning of physics concepts by using haptic devices. , 2015, , .		10
72	Modeling plant life in computer graphics. , 2016, , .		10

#	ARTICLE	IF	CITATIONS
73	Motion Style Retargeting to Characters With Different Morphologies. Computer Graphics Forum, 2017, 36, 86-99.	3.0	10
74	Systematic Review of Multimodal Human-Computer Interaction. Informatics, 2022, 9, 13.	3.9	10
75	Visuohaptic experiments: Exploring the effects of visual and haptic feedback on students' learning of friction concepts. Computer Applications in Engineering Education, 2019, 27, 1376-1401.	3.4	9
76	A fast pith detection for computed tomography scanned hardwood logs. Computers and Electronics in Agriculture, 2020, 170, 105107.	7.7	9
77	Data driven analytics of porous battery microstructures. Energy and Environmental Science, 2021, 14, 2485-2493.	30.8	9
78	Defect detection performance of automated hardwood lumber grading system. Computers and Electronics in Agriculture, 2018, 155, 487-495.	7.7	8
79	PVRD-FASP: A Unified Solver for Modeling Carrier and Defect Transport in Photovoltaic Devices. IEEE Journal of Photovoltaics, 2019, 9, 1602-1613.	2.5	8
80	Skippy. ACM Transactions on Graphics, 2017, 36, 1-12.	7.2	8
81	IMapple - Functional structural model of apple trees. , 2016, , .		7
82	Exploration of affordances of visuo-haptic simulations to learn the concept of friction. , 2017, , .		7
83	Improving printing orientation for Fused Deposition Modeling printers by analyzing connected components. Additive Manufacturing, 2018, 22, 720-728.	3.0	7
84	Procedural Riverscapes. Computer Graphics Forum, 2019, 38, 35-46.	3.0	7
85	Deep BarkID: a portable tree bark identification system by knowledge distillation. European Journal of Forest Research, 2021, 140, 1391-1399.	2.5	7
86	Modeling virtual gardens by autonomous procedural agents. , 0, , .		6
87	Modeling virtual ecosystems with the proactive guidance of agents. , 0, , .		6
88	A framework for multi-objective optimization of virtual tree pruning based on growth simulation. Expert Systems With Applications, 2020, 162, 113792.	7.6	6
89	Multimodal Affective Pedagogical Agents for Different Types of Learners. Advances in Intelligent Systems and Computing, 2021, , 218-224.	0.6	6
90	A Survey of Control Mechanisms for Creative Pattern Generation. Computer Graphics Forum, 2021, 40, 585-609.	3.0	6

#	ARTICLE	IF	CITATIONS
91	Deep Learning-Based Emotion Recognition from Real-Time Videos. Lecture Notes in Computer Science, 2020, , 321-332.	1.3	6
92	Procedural Urban Forestry. ACM Transactions on Graphics, 2022, 41, 1-18.	7.2	6
93	Parallel implementation of terrain erosion applied to the surface of Mars. , 2001, , .		5
94	Environmental Objects for Authoring Procedural Scenes. Computer Graphics Forum, 2016, 35, 296-308.	3.0	5
95	Validation of automated hardwood lumber grading system. Computers and Electronics in Agriculture, 2018, 155, 496-500.	7.7	5
96	An output-driven approach to design a swarming model for architectural indoor environments. Computers and Graphics, 2020, 87, 103-110.	2.5	5
97	QuadStack: An Efficient Representation and Direct Rendering of Layered Datasets. IEEE Transactions on Visualization and Computer Graphics, 2021, 27, 3733-3744.	4.4	5
98	PICO: Procedural Iterative Constrained Optimizer for Geometric Modeling. IEEE Transactions on Visualization and Computer Graphics, 2021, 27, 3968-3981.	4.4	5
99	ICTree. ACM Transactions on Graphics, 2021, 40, 1-15.	7.2	5
100	Automatic Differentiable Procedural Modeling. Computer Graphics Forum, 2022, 41, 289-307.	3.0	5
101	POLized e-Learning using contract management. Computers and Education, 2005, 45, 75-103.	8.3	4
102	Visual Exploration of the Vulcan COâ,, Data. IEEE Computer Graphics and Applications, 2009, 29, 6-11.	1.2	4
103	An intuitive polygon morphing. Visual Computer, 2010, 26, 205-215.	3.5	4
104	Motion retiming by using bilateral time control surfaces. Computers and Graphics, 2015, 47, 59-67.	2.5	4
105	lMapple: a source-sink developmental model for â€Golden Deliciousâ€™ apple trees. Acta Horticulturae, 2017, , 51-60.	0.2	4
106	3D reconstruction identifies loci linked to variation in angle of individual sorghum leaves. PeerJ, 2021, 9, e12628.	2.0	4
107	Urban tree generator: spatio-temporal and generative deep learning for urban tree localization and modeling. Visual Computer, 2022, 38, 3327-3339.	3.5	4
108	Using particles for 3D texture sculpting. Computer Animation and Virtual Worlds, 2001, 12, 191-201.	0.9	3

#	ARTICLE	IF	CITATIONS
109	Physically-based hydraulic erosion. , 2006, , .		3
110	Real-time Data Delivery and Remote Visualization through Multi-layer Interfaces. , 2008, , .		3
111	Perceptual importance of lighting phenomena in rendering of animated water. ACM Transactions on Applied Perception, 2013, 10, 1-18.	1.9	3
112	A hybrid level-of-detail representation for large-scale urban scenes rendering. Computer Animation and Virtual Worlds, 2014, 25, 243-253.	1.2	3
113	Authoring consistent landscapes with flora and fauna. ACM Transactions on Graphics, 2021, 40, 1-13.	7.2	3
114	Visual Model of Plant Development with Respect to Influence of Light. Eurographics, 1997, , 125-136.	0.4	3
115	Urban Brush: Intuitive and Controllable Urban Layout Editing. , 2021, , .		3
116	Visuo-haptic Simulations to Improve Studentsâ€™ Understanding of Friction Concepts. , 2018, , .		2
117	Designing a Visuohaptic Simulation to Promote Graphical Representations and Conceptual Understanding of Structural Analysis. , 2018, , .		2
118	Dendry. , 2019, , .		2
119	2019_editorial_v2. Computer Graphics Forum, 2019, 38, 5-6.	3.0	2
120	Edge-based procedural textures. Visual Computer, 2021, 37, 2595-2606.	3.5	2
121	Board # 39 : Identifying Affordances of Physical Manipulative Tools for the Design of Visuo-haptic Simulations. , 0, , .		2
122	A Natural Interface for Sign Language Mathematics. Lecture Notes in Computer Science, 2006, , 70-79.	1.3	2
123	A Simple and Robust Approach to Computation of Meshes Intersection. , 2018, , .		2
124	Interactive Inverse Spatio-Temporal Crowd Motion Design. , 2020, , .		2
125	PTRM: Perceived Terrain Realism Metric. ACM Transactions on Applied Perception, 2022, 19, 1-22.	1.9	2
126	Virtual campeche: a web based virtual three-dimensional tour. , 0, , .		1

#	ARTICLE	IF	CITATIONS
127	Interactive poster: Visual analytic techniques for CO ₂ emissions and concentrations in the United States. , 2008, , .		1
128	A system for large-scale visualization of streaming Doppler data. , 2013, , .		1
129	A Flexible Pinhole Camera Model for Coherent Nonuniform Sampling. IEEE Computer Graphics and Applications, 2014, 34, 30-41.	1.2	1
130	User-Assisted Inverse Procedural Facade Modeling and Compressed Image Rendering. Lecture Notes in Computer Science, 2015, , 126-136.	1.3	1
131	Hydraulic Erosion Modeling on a Triangular Mesh. Lecture Notes in Geoinformation and Cartography, 2015, , 237-247.	1.0	1
132	Learning geometric graph grammars. , 2016, , .		1
133	Error-bounded surface remeshing with minimal angle elimination. , 2016, , .		1
134	Proceduralization of urban models. , 2017, , .		1
135	Barcode: Global Binary Patterns for Fast Visual Inference. , 2017, , .		1
136	Automatic Deep Inference of Procedural Cities from Global-scale Spatial Data. ACM Transactions on Spatial Algorithms and Systems, 2021, 7, 1-28.	1.4	1
137	Character Motion in Function Space. , 2019, , .		1
138	Understanding and exploiting object interaction landscapes. ACM Transactions on Graphics, 2017, 36, 1.	7.2	1
139	Skylight approximation for simulation of plant development. , 0, , .		0
140	Tensor product surfaces as rewriting process. , 2006, , .		0
141	Computer Graphics Procedural Modeling of Soil Structure. Progress in Soil Science, 2016, , 133-144.	0.8	0
142	Computational Design and Fabrication. IEEE Computer Graphics and Applications, 2017, 37, 32-33.	1.2	0
143	2019_editorial_v2. Computer Graphics Forum, 2020, 39, 5-6.	3.0	0
144	Character motion in function space. Visual Computer, 2021, 37, 735-748.	3.5	0

#	ARTICLE	IF	CITATIONS
145	A learner-centered approach for designing visuohaptic simulations for conceptual understanding of truss structures. Computer Applications in Engineering Education, 0, , .	3.4	0
146	Towards a Modular Network-Distributed Mixed-Reality Learning Space System. Lecture Notes in Computer Science, 2006, , 637-646.	1.3	0
147	A Survey of Trends of Building Fire Simulation in the Architecture, Engineering, and Construction (AEC) Domains. , 2022, , .		0
148	A Guided Inquiry-Based Learning Approach to High Performance Computer Graphics Education. , 0, , .		0