Gordon Wetzstein

List of Publications by Year
in descending order

190 papers	9,798 citations	50276 46 h-index	51608 86 g-index
190 all docs	190 docs citations	190 times ranked	5210 citing authors

#	Article	IF	Citations
1	Focus issue introduction: 3D image acquisition and display: technology, perception and applications. Optics Express, 2022, 30, 4655.	3.4	2
2	Computational Optical Sensing and Imaging 12021: Feature Issue Introduction. Applied Optics, 2022, 61, COSI1-COSI4.	1.8	2
3	Computational optical sensing and imaging 2021: feature issue introduction. Optics Express, 2022, 30, 11394.	3.4	2
4	Towards retina-quality VR video streaming. Computer Communication Review, 2022, 52, 10-19.	1.8	6
5	Larger visual changes compress time: The inverted effect of asemantic visual features on interval time perception. PLoS ONE, 2022, 17, e0265591.	2.5	2
6	Video See-Through Mixed Reality with Focus Cues. IEEE Transactions on Visualization and Computer Graphics, 2022, 28, 2256-2266.	4.4	7
7	ScanGAN360: A Generative Model of Realistic Scanpaths for 360Â° Images. IEEE Transactions on Visualization and Computer Graphics, 2022, 28, 2003-2013.	4.4	20
8	37â€1: Invited Paper: Advances in Neural Holographic Displays for Virtual and Augmented Reality. Digest of Technical Papers SID International Symposium, 2022, 53, 454-457.	0.3	0
9	37â€2: Invited Paper: Enabling Augmentedâ€Reality Nearâ€Eye and Headâ€Up Displays with Neural Holography. Digest of Technical Papers SID International Symposium, 2022, 53, 458-461.	0.3	0
10	Keyhole Imaging: Non-Line-of-Sight Imaging and Tracking of Moving Objects Along a Single Optical Path. IEEE Transactions on Computational Imaging, 2021, 7, 1-12.	4.4	25
11	Optimizing image quality for holographic near-eye displays with Michelson Holography. Optica, 2021, 8, 143.	9.3	58
12	High-quality holographic displays using double SLMs and camera-in-the-loop optimization. , 2021, , .		1
13	Depth from Defocus with Learned Optics for Imaging and Occlusion-aware Depth Estimation. , 2021, , .		19
14	Dirty Pixels: Towards End-to-end Image Processing and Perception. ACM Transactions on Graphics, 2021, 40, 1-15.	7.2	19
15	Event-Based Near-Eye Gaze Tracking Beyond 10,000 Hz. IEEE Transactions on Visualization and Computer Graphics, 2021, 27, 2577-2586.	4.4	25
16	Deep S³PR: Simultaneous Source Separation and Phase Retrieval Using Deep Generative Models. , 2021, , .		5
17	D-VDAMP: Denoising-Based Approximate Message Passing for Compressive MRI. , 2021, , .		3
18	Suremap: Predicting Uncertainty in Cnn-Based Image Reconstructions Using Steinâ€™s Unbiased Risk Estimate. , 2021, , .		4

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19	Acorn. ACM Transactions on Graphics, 2021, 40, 1-13.	7.2	75
20	A perceptual model for eccentricity-dependent spatio-temporal flicker fusion and its applications to foveated graphics. ACM Transactions on Graphics, 2021, 40, 1-11.	7.2	0
21	A perceptual model for eccentricity-dependent spatio-temporal flicker fusion and its applications to foveated graphics. ACM Transactions on Graphics, 2021, 40, 1-11.	7.2	16
22	Shift-variant color-coded diffractive spectral imaging system. Optica, 2021, 8, 1424.	9.3	44
23	Roadmap on digital holography [Invited]. Optics Express, 2021, 29, 35078.	3.4	133
24	Holographic pancake optics for thin and lightweight optical see-through augmented reality. Optics Express, 2021, 29, 35206.	3.4	32
25	Unfiltered holography: optimizing high diffraction orders without optical filtering for compact holographic displays. Optics Letters, 2021, 46, 5822.	3.3	24
26	Enabling Next-generation Holographic Displays with Artificial Intelligence. , 2021, , .		0
27	Neural Lumigraph Rendering. , 2021, , .		63
28	pi-GAN: Periodic Implicit Generative Adversarial Networks for 3D-Aware Image Synthesis. , 2021, , .		289
29	AutoInt: Automatic Integration for Fast Neural Volume Rendering. , 2021, , .		81
30	Deep learning multi-shot 3D localization microscopy using hybrid opticalâ€“electronic computing. Optics Letters, 2021, 46, 6023.	3.3	3
31	Speckle-free holography with partially coherent light sources and camera-in-the-loop calibration. Science Advances, 2021, 7, eabg5040.	10.3	65
32	Neural 3D holography. ACM Transactions on Graphics, 2021, 40, 1-12.	7.2	72
33	Single-shot Hyperspectral-Depth Imaging with Learned Diffractive Optics. , 2021, , .		34
34	Time-Multiplexed Coded Aperture Imaging: Learned Coded Aperture and Pixel Exposures for Compressive Imaging Systems. , 2021, , .		15
35	5â€2: Invited Paper: Computational Eyeglasses and Nearâ€eye Displays with Focus Cues. Digest of Technical Papers SID International Symposium, 2020, 51, 41-44.	0.3	0
36	Inference in artificial intelligence with deep optics and photonics. Nature, 2020, 588, 39-47.	27.8	418

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37	State of the Art on Neural Rendering. Computer Graphics Forum, 2020, 39, 701-727.	3.0	234
38	Non-Line-of-Sight Surface Reconstruction Using the Directional Light-Cone Transform. , 2020, , .		22
39	Deep Optics for Single-Shot High-Dynamic-Range Imaging. , 2020, , .		66
40	Three-dimensional imaging through scattering media based on confocal diffuse tomography. Nature Communications, 2020, 11, 4517.	12.8	62
41	Learned rotationally symmetric diffractive achromat for full-spectrum computational imaging. Optica, 2020, 7, 913.	9.3	91
42	Neural Sensors: Learning Pixel Exposures for HDR Imaging and Video Compressive Sensing With Programmable Sensors. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2020, 42, 1642-1653.	13.9	58
43	Non-line-of-sight imaging. Nature Reviews Physics, 2020, 2, 318-327.	26.6	113
44	Optically sensing neural activity without imaging. Nature Photonics, 2020, 14, 340-341.	31.4	1
45	Deep Adaptive LiDAR: End-to-end Optimization of Sampling and Depth Completion at Low Sampling Rates. , 2020, , .		22
46	Factored Occlusion: Single Spatial Light Modulator Occlusion-capable Optical See-through Augmented Reality Display. IEEE Transactions on Visualization and Computer Graphics, 2020, 26, 1871-1879.	4.4	31
47	An Easy-to-Use Pipeline for an RGBD Camera and an AR Headset. Presence: Teleoperators and Virtual Environments, 2020, 27, 202-205.	0.6	2
48	Cortical Observation by Synchronous Multifocal Optical Sampling Reveals Widespread Population Encoding of Actions. Neuron, 2020, 107, 351-367.e19.	8.1	56
49	Comparison of head pose tracking methods for mixed-reality neuronavigation for transcranial magnetic stimulation. , 2020, , .		7
50	Gaze-Contingent Ocular Parallax Rendering for Virtual Reality. ACM Transactions on Graphics, 2020, 39, 1-12.	7.2	40
51	Neural Holography. , 2020, , .		8
52	Neural holography with camera-in-the-loop training. ACM Transactions on Graphics, 2020, 39, 1-14.	7.2	208
53	Optimizing depth perception in virtual and augmented reality through gaze-contingent stereo rendering. ACM Transactions on Graphics, 2020, 39, 1-10.	7.2	23
54	Neural light field 3D printing. ACM Transactions on Graphics, 2020, 39, 1-12.	7.2	4

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55	SPADnet: deep RGB-SPAD sensor fusion assisted by monocular depth estimation. Optics Express, 2020, 28, 14948.	3.4	37
56	Roadmap on 3D integral imaging: sensing, processing, and display. Optics Express, 2020, 28, 32266.	3.4	105
57	Toward the next-generation VR/AR optics: a review of holographic near-eye displays from a human-centric perspective. Optica, 2020, 7, 1563.	9.3	216
58	Confocal Diffuse Tomography for Single-Photon 3D Imaging Through Highly Scattering Media. , 2020, , .		0
59	Disambiguating Monocular Depth Estimation with a Single Transient. Lecture Notes in Computer Science, 2020, , 139-155.	1.3	7
60	Deep optics. , 2020, , .		3
61	Neural Holographic Display and Image Synthesis. , 2020, , .		1
62	Real-Time Unknown-View Tomography Using Recurrent Neural Networks with Applications to Keyhole Imaging. , 2020, , .		1
63	Capture, Reconstruction, and Representation of the Visual Real World for Virtual Reality. Lecture Notes in Computer Science, 2020, , 3-32.	1.3	13
64	Augmented and Virtual Reality. The Frontiers Collection, 2020, , 467-499.	0.2	1
65	Snapshot multi-PSF 3D single-molecule localization microscopy using deep learning. , 2020, , .		2
66	State of the Art in Perceptual VR Displays. Lecture Notes in Computer Science, 2020, , 221-243.	1.3	3
67	Efficient non-line-of-sight imaging with computational single-photon imaging. , 2020, , .		1
68	Semantic Implicit Neural Scene Representations With Semi-Supervised Training. , 2020, , .		16
69	Deep Optics: Learning Cameras and Optical Computing Systems. , 2020, , .		0
70	Gaze-contingent ocular parallax rendering for virtual reality. , 2019, , .		5
71	Wave-based non-line-of-sight imaging using fast f-k migration. ACM Transactions on Graphics, 2019, 38, 1-13.	7.2	135
72	Autofocals: Evaluating gaze-contingent eyeglasses for presbyopes. Science Advances, 2019, 5, eaav6187.	10.3	28

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73	A dataset for benchmarking time-resolved non-line-of-sight imaging. , 2019, , .		15
74	Autofocals. , 2019, , .		4
75	Varifocal Occlusion-Capable Optical See-through Augmented Reality Display based on Focus-tunable Optics. IEEE Transactions on Visualization and Computer Graphics, 2019, 25, 3125-3134.	4.4	38
76	Non-line-of-sight Imaging with Partial Occluders and Surface Normals. ACM Transactions on Graphics, 2019, 38, 1-10.	7.2	76
77	A Light-Field Metasurface for High-Resolution Single-Particle Tracking. Nano Letters, 2019, 19, 2267-2271.	9.1	41
78	Deep Optics for Monocular Depth Estimation and 3D Object Detection. , 2019, , .		85
79	Acoustic Non-Line-Of-Sight Imaging. , 2019, , .		57
80	DeepVoxels: Learning Persistent 3D Feature Embeddings. , 2019, , .		208
81	LiFF: Light Field Features in Scale and Depth. , 2019, , .		43
82	Learned large field-of-view imaging with thin-plate optics. ACM Transactions on Graphics, 2019, 38, 1-14.	7.2	78
83	Holographic near-eye displays based on overlap-add stereograms. ACM Transactions on Graphics, 2019, 38, 1-13.	7.2	51
84	Panoramic single-aperture multi-sensor light field camera. Optics Express, 2019, 27, 37257.	3.4	15
85	Multifocal panoptic recording of cross-cortical neuronal dynamics in behaving mice. , 2019, , .		0
86	Saliency in VR: How Do People Explore Virtual Environments?. IEEE Transactions on Visualization and Computer Graphics, 2018, 24, 1633-1642.	4.4	289
87	Confocal non-line-of-sight imaging based on the light-cone transform. Nature, 2018, 555, 338-341.	27.8	290
88	Convolutional Sparse Coding for RGB+NIR Imaging. IEEE Transactions on Image Processing, 2018, 27, 1611-1625.	9.8	29
89	Towards a Machine-Learning Approach for Sickness Prediction in 360Â° Stereoscopic Videos. IEEE Transactions on Visualization and Computer Graphics, 2018, 24, 1594-1603.	4.4	79
90	Singleâ€shot speckle correlation fluorescence microscopy in thick scattering tissue with image reconstruction priors. Journal of Biophotonics, 2018, 11, e201700224.	2.3	20

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91	Sub-picosecond photon-efficient 3D imaging using single-photon sensors. Scientific Reports, 2018, 8, 17726.	3.3	68
92	Deep End-to-End Time-of-Flight Imaging. , 2018, , .		60
93	Real-time non-line-of-sight imaging. , 2018, , .		14
94	Confocal non-line-of-sight imaging. , 2018, , .		2
95	Electron Ghost Imaging. Physical Review Letters, 2018, 121, 114801.	7.8	77
96	Autofocals. , 2018, , .		6
97	Time-multiplexed light field synthesis via factored Wigner distribution function. Optics Letters, 2018, 43, 599.	3.3	10
98	Single-photon 3D imaging with deep sensor fusion. ACM Transactions on Graphics, 2018, 37, 1-12.	7.2	120
99	End-to-end optimization of optics and image processing for achromatic extended depth of field and super-resolution imaging. ACM Transactions on Graphics, 2018, 37, 1-13.	7.2	230
100	A convex 3D deconvolution algorithm for low photon count fluorescence imaging. Scientific Reports, 2018, 8, 11489.	3.3	25
101	Hybrid optical-electronic convolutional neural networks with optimized diffractive optics for image classification. Scientific Reports, 2018, 8, 12324.	3.3	296
102	Towards transient imaging at interactive rates with single-photon detectors. , 2018, , .		15
103	Optical Convolutional Neural Networks with Optimized Phase Masks for Image Classification. , 2018, , .		0
104	Optimizing virtual reality for all users through gaze-contingent and adaptive focus displays. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 2183-2188.	7.1	144
105	4-3:Invited Paper: Gaze-contingent Adaptive Focus Near-eye Displays. Digest of Technical Papers SID International Symposium, 2017, 48, 23-25.	0.3	3
106	Optimizing VR for all users through adaptive focus displays. , 2017, , .		2
107	Accommodation-invariant computational near-eye displays. ACM Transactions on Graphics, 2017, 36, 1-12.	7.2	67
108	Movie editing and cognitive event segmentation in virtual reality video. ACM Transactions on Graphics, 2017, 36, 1-12.	7.2	72

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109	SpinVR. ACM Transactions on Graphics, 2017, 36, 1-12.	7.2	33
110	Aperture interference and the volumetric resolution of light field fluorescence microscopy. , 2017, , .		1
111	Snapshot difference imaging using correlation time-of-flight sensors. ACM Transactions on Graphics, 2017, 36, 1-11.	7.2	8
112	Build your own VR system. , 2017, , .		0
113	Consensus Convolutional Sparse Coding. , 2017, , .		21
114	A Wide-Field-of-View Monocentric Light Field Camera. , 2017, , .		23
115	Reconstructing Transient Images from Single-Photon Sensors. , 2017, , .		67
116	Computational Near-eye Displays: Engineering the Interface between our Visual System and the Digital World. , 2017, , .		0
117	Evaluation of Accommodation Response to Monovision for Virtual Reality. , 2017, , .		2
118	Panoramic Monocentric Light Field Camera. , 2017, , .		0
119	Computational imaging with multi-camera time-of-flight systems. ACM Transactions on Graphics, 2016, 35, 1-11.	7.2	49
120	28-3:Invited Paper: Light Field, Focus-tunable, and Monovision Near-eye Displays. Digest of Technical Papers SID International Symposium, 2016, 47, 358-360.	0.3	1
121	Convolutional Sparse Coding for High Dynamic Range Imaging. Computer Graphics Forum, 2016, 35, 153-163.	3.0	77
122	Variable Aperture Light Field Photography: Overcoming the Diffraction-Limited Spatio-Angular Resolution Tradeoff. , 2016, , .		7
123	Novel Optical Configurations for Virtual Reality. , 2016, , .		62
124	Depth augmented stereo panorama for cinematic virtual reality with focus cues. , 2016, , .		5
125	Computational focus-tunable near-eye displays. , 2016, , .		6
126	Photonic Multitasking Interleaved Si Nanoantenna Phased Array. Nano Letters, 2016, 16, 7671-7676.	9.1	113

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127	Factored Displays: Improving resolution, dynamic range, color reproduction, and light field characteristics with advanced signal processing. IEEE Signal Processing Magazine, 2016, 33, 119-129.	5.6	2
128	ProxImaL. ACM Transactions on Graphics, 2016, 35, 1-15.	7.2	45
129	Tensor low-rank and sparse light field photography. Computer Vision and Image Understanding, 2016, 145, 172-181.	4.7	26
130	3D Displays. Annual Review of Vision Science, 2016, 2, 397-435.	4.4	47
131	Efficient 3D Deconvolution Microscopy with Proximal Algorithms. , 2016, , .		0
132	Extended Field-of-view and Increased-signal 3D Holographic Illumination with Time-division Multiplexing. , 2016, , .		0
133	The light field stereoscope. , 2015, , .		33
134	Extended field-of-view and increased-signal 3D holographic illumination with time-division multiplexing. Optics Express, 2015, 23, 32573.	3.4	55
135	I2.1: Invited Paper: On the Duality of Compressive Light Field Imaging and Display. Digest of Technical Papers SID International Symposium, 2015, 46, 176-179.	0.3	3
136	Doppler time-of-flight imaging. , 2015, , .		4
137	Why People Should Care About LightâEField Displays. Information Display, 2015, 31, 22-28.	0.2	1
138	Adaptive color display via perceptually-driven factored spectral projection. ACM Transactions on Graphics, 2015, 34, 1-10.	7.2	24
139	Fast and flexible convolutional sparse coding. , 2015, , .		162
140	The light field stereoscope. ACM Transactions on Graphics, 2015, 34, 1-12.	7.2	189
141	Doppler time-of-flight imaging. ACM Transactions on Graphics, 2015, 34, 1-11.	7.2	41
142	Aperture masks for sampling the light field. , 2015, , .		0
143	Vision Correcting Displays Based on Inverse Blurring and Aberration Compensation. Lecture Notes in Computer Science, 2015, , 524-538.	1.3	2
144	Transparent Object Reconstruction via Coded Transport of Intensity. , 2014, , .		23

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145	Eyeglasses-free display. ACM Transactions on Graphics, 2014, 33, 1-12.	7.2	69
146	A compressive light field projection system. ACM Transactions on Graphics, 2014, 33, 1-12.	7.2	66
147	A compressive light field projection system. , 2014, , .		6
148	Compressive multi-mode superresolution display. Optics Express, 2014, 22, 14981.	3.4	13
149	Attenuation-corrected fluorescence spectra unmixing for spectroscopy and microscopy. Optics Express, 2014, 22, 19469.	3.4	7
150	36.1: Wide Field of View Compressive Light Field Display using a Multilayer Architecture and Tracked Viewers. Digest of Technical Papers SID International Symposium, 2014, 45, 509-512.	0.3	5
151	Simultaneous whole-animal 3D imaging of neuronal activity using light-field microscopy. Nature Methods, 2014, 11, 727-730.	19.0	672
152	Dual-coded compressive hyperspectral imaging. Optics Letters, 2014, 39, 2044.	3.3	118
153	Ultra-fast Lensless Computational Imaging through 5D Frequency Analysis of Time-resolved Light Transport. International Journal of Computer Vision, 2014, 110, 128-140.	15.6	17
154	A switchable light field camera architecture with Angle Sensitive Pixels and dictionary-based sparse coding. , 2014, , .		28
155	Computational Schlieren Photography with Light Field Probes. International Journal of Computer Vision, 2014, 110, 113-127.	15.6	5
156	Computational cameras and displays. , 2014, , .		1
157	Wide field of view compressive light field display using a multilayer architecture and tracked viewers. Journal of the Society for Information Display, 2014, 22, 525-534.	2.1	8
158	Toward BxDF display using multilayer diffraction. ACM Transactions on Graphics, 2014, 33, 1-14.	7.2	13
159	A Compressive Superresolution Display. , 2014, , .		2
160	Nonlinear Fluorescence Spectra Unmixing. , 2014, , .		0
161	A survey on computational displays: Pushing the boundaries of optics, computation, and perception. Computers and Graphics, 2013, 37, 1012-1038.	2.5	98
162	Adaptive image synthesis for compressive displays. ACM Transactions on Graphics, 2013, 32, 1-12.	7.2	21

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163	Focus 3D. ACM Transactions on Graphics, 2013, 32, 1-13.	7.2	65
164	On Plenoptic Multiplexing and Reconstruction. International Journal of Computer Vision, 2013, 101, 384-400.	15.6	38
165	Display adaptive 3D content remapping. Computers and Graphics, 2013, 37, 983-996.	2.5	40
166	Compressive light field photography using overcomplete dictionaries and optimized projections. ACM Transactions on Graphics, 2013, 32, 1-12.	7.2	326
167	Construction and Calibration of Optically Efficient LCD-based Multi-Layer Light Field Displays. Journal of Physics: Conference Series, 2013, 415, 012071.	0.4	7
168	Compressive light field photography. , 2012, , .		0
169	Perceptually-optimized content remapping for automultiscopic displays. , 2012, , .		3
170	Beyond parallax barriers: applying formal optimization methods to multilayer automultiscopic displays. Proceedings of SPIE, 2012, , .	0.8	10
171	Tensor displays. ACM Transactions on Graphics, 2012, 31, 1-11.	7.2	336
172	Computational displays. , 2012, , .		10
173	Single lens off-chip cellphone microscopy. , 2012, , .		13
174	Compressive Light Field Displays. IEEE Computer Graphics and Applications, 2012, 32, 6-11.	1.2	31
175	Frequency Analysis of Transient Light Transport with Applications in Bare Sensor Imaging. Lecture Notes in Computer Science, 2012, , 542-555.	1.3	27
176	Refractive shape from light field distortion. , 2011, , .		64
177	Layered 3D. ACM Transactions on Graphics, 2011, 30, 1-12.	7.2	153
178	Hand-held Schlieren Photography with Light Field probes. , 2011, , .		40
179	Computational Plenoptic Imaging. Computer Graphics Forum, 2011, 30, 2397-2426.	3.0	68
180	Layered 3D. , 2011, , .		30

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181	Polarization fields. , 2011, , .		32
182	Polarization fields. ACM Transactions on Graphics, 2011, 30, 1-10.	7.2	105
183	Optical Image Processing Using Light Modulation Displays. Computer Graphics Forum, 2010, 29, 1934-1944.	3.0	21
184	Sensor saturation in Fourier multiplexed imaging. , 2010, , .		19
185	Coded aperture projection. ACM Transactions on Graphics, 2010, 29, 1-12.	7.2	41
186	A theory of plenoptic multiplexing. , 2010, , .		14
187	The Visual Computing of Projectorâ€Camera Systems. Computer Graphics Forum, 2008, 27, 2219-2245.	3.0	84
188	The visual computing of projector-camera systems. , 2008, , .		56
189	Radiometric Compensation through Inverse Light Transport. , 2007, , .		67
190	Consistent illumination within optical see-through augmented environments. , 2003, , .		2