

Zhou Wang

List of Publications by Year in descending order

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190
papers

55,764
citations

47277

47
h-index

32004

101
g-index

196
all docs

196
docs citations

196
times ranked

28367
citing authors

#	ARTICLE	IF	CITATIONS
1	Image Quality Assessment: From Error Visibility to Structural Similarity. IEEE Transactions on Image Processing, 2004, 13, 600-612.	9.9	34,925
2	A universal image quality index. IEEE Signal Processing Letters, 2002, 9, 81-84.	3.7	4,688
3	Mean squared error: Love it or leave it? A new look at Signal Fidelity Measures. IEEE Signal Processing Magazine, 2009, 26, 98-117.	5.6	2,096
4	Information Content Weighting for Perceptual Image Quality Assessment. IEEE Transactions on Image Processing, 2011, 20, 1185-1198.	9.9	973
5	Video quality assessment based on structural distortion measurement. Signal Processing: Image Communication, 2004, 19, 121-132.	3.3	798
6	Perceptual Quality Assessment for Multi-Exposure Image Fusion. IEEE Transactions on Image Processing, 2015, 24, 3345-3356.	9.9	594
7	Objective Quality Assessment of Tone-Mapped Images. IEEE Transactions on Image Processing, 2013, 22, 657-667.	9.9	477
8	Complex Wavelet Structural Similarity: A New Image Similarity Index. IEEE Transactions on Image Processing, 2009, 18, 2385-2401.	9.9	475
9	Why is image quality assessment so difficult?. , 2002, , .		473
10	Modern Image Quality Assessment. Synthesis Lectures on Image, Video, and Multimedia Processing, 2006, 2, 1-156.	0.9	472
11	No-reference perceptual quality assessment of JPEG compressed images. , 0, , .		467
12	Waterloo Exploration Database: New Challenges for Image Quality Assessment Models. IEEE Transactions on Image Processing, 2017, 26, 1004-1016.	9.9	411
13	End-to-End Blind Image Quality Assessment Using Deep Neural Networks. IEEE Transactions on Image Processing, 2018, 27, 1202-1213.	9.9	369
14	Blind Image Quality Assessment Using a Deep Bilinear Convolutional Neural Network. IEEE Transactions on Circuits and Systems for Video Technology, 2020, 30, 36-47.	8.4	360
15	On the Mathematical Properties of the Structural Similarity Index. IEEE Transactions on Image Processing, 2012, 21, 1488-1499.	9.9	310
16	A Patch-Structure Representation Method for Quality Assessment of Contrast Changed Images. IEEE Signal Processing Letters, 2015, 22, 2387-2390.	3.7	281
17	Reduced-Reference Image Quality Assessment Using Divisive Normalization-Based Image Representation. IEEE Journal on Selected Topics in Signal Processing, 2009, 3, 202-211.	10.8	280
18	Reduced-reference image quality assessment using a wavelet-domain natural image statistic model. , 2005, , .		274

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19	Image Sharpness Assessment Based on Local Phase Coherence. IEEE Transactions on Image Processing, 2013, 22, 2798-2810.	9.9	274
20	Robust Multi-Exposure Image Fusion: A Structural Patch Decomposition Approach. IEEE Transactions on Image Processing, 2017, 26, 2519-2532.	9.9	250
21	Quality-aware images. IEEE Transactions on Image Processing, 2006, 15, 1680-1689.	9.9	241
22	dipIQ: Blind Image Quality Assessment by Learning-to-Rank Discriminable Image Pairs. IEEE Transactions on Image Processing, 2017, 26, 3951-3964.	9.9	241
23	Reduced- and No-Reference Image Quality Assessment. IEEE Signal Processing Magazine, 2011, 28, 29-40.	5.6	227
24	Blind measurement of blocking artifacts in images. , 0, , .		226
25	Reduced-Reference Image Quality Assessment by Structural Similarity Estimation. IEEE Transactions on Image Processing, 2012, 21, 3378-3389.	9.9	212
26	Unified Blind Quality Assessment of Compressed Natural, Graphic, and Screen Content Images. IEEE Transactions on Image Processing, 2017, 26, 5462-5474.	9.9	185
27	SSIM-Motivated Rate-Distortion Optimization for Video Coding. IEEE Transactions on Circuits and Systems for Video Technology, 2012, 22, 516-529.	8.4	174
28	Embedded foveation image coding. IEEE Transactions on Image Processing, 2001, 10, 1397-1410.	9.9	171
29	Video quality assessment using a statistical model of human visual speed perception. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2007, 24, B61.	1.5	167
30	Foveation scalable video coding with automatic fixation selection. IEEE Transactions on Image Processing, 2003, 12, 243-254.	9.9	164
31	Spatial Pooling Strategies for Perceptual Image Quality Assessment. , 2006, , .		147
32	Multi-Exposure Image Fusion by Optimizing A Structural Similarity Index. IEEE Transactions on Computational Imaging, 2018, 4, 60-72.	4.4	135
33	Quality Prediction of Asymmetrically Distorted Stereoscopic 3D Images. IEEE Transactions on Image Processing, 2015, 24, 3400-3414.	9.9	134
34	Applications of Objective Image Quality Assessment Methods [Applications Corner]. IEEE Signal Processing Magazine, 2011, 28, 137-142.	5.6	128
35	A Quality-of-Experience Index for Streaming Video. IEEE Journal on Selected Topics in Signal Processing, 2017, 11, 154-166.	10.8	125
36	Perceptual Video Coding Based on SSIM-Inspired Divisive Normalization. IEEE Transactions on Image Processing, 2013, 22, 1418-1429.	9.9	116

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37	Best neighborhood matching: an information loss restoration technique for block-based image coding systems. IEEE Transactions on Image Processing, 1998, 7, 1056-1061.	9.9	114
38	Translation Insensitive Image Similarity in Complex Wavelet Domain. , 0, , .		108
39	High Dynamic Range Image Compression by Optimizing Tone Mapped Image Quality Index. IEEE Transactions on Image Processing, 2015, 24, 3086-3097.	9.9	108
40	Objective Quality Assessment for Image Retargeting Based on Structural Similarity. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2014, 4, 95-105.	3.6	105
41	The Application of Visual Saliency Models in Objective Image Quality Assessment: A Statistical Evaluation. IEEE Transactions on Neural Networks and Learning Systems, 2016, 27, 1266-1278.	11.6	100
42	A highly efficient method for blind image quality assessment. , 2015, , .		96
43	Deep Guided Learning for Fast Multi-Exposure Image Fusion. IEEE Transactions on Image Processing, 2020, 29, 2808-2819.	9.9	96
44	Maximum differentiation (MAD) competition: A methodology for comparing computational models of perceptual quantities. Journal of Vision, 2008, 8, 8-8.	0.3	93
45	No-reference image sharpness assessment based on local phase coherence measurement. , 2010, , .		89
46	A Quality-of-Experience Database for Adaptive Video Streaming. IEEE Transactions on Broadcasting, 2018, 64, 474-487.	3.2	89
47	Perceptual evaluation of single image dehazing algorithms. , 2015, , .		88
48	Video Denoising Based on a Spatiotemporal Gaussian Scale Mixture Model. IEEE Transactions on Circuits and Systems for Video Technology, 2010, 20, 1032-1040.	8.4	80
49	A Comprehensive Performance Evaluation of Image Quality Assessment Algorithms. IEEE Access, 2019, 7, 140030-140070.	4.2	75
50	No-Reference Quality Assessment of Contrast-Distorted Images Based on Natural Scene Statistics. IEEE Signal Processing Letters, 2014, , 1-1.	3.7	70
51	Restoration of impulse noise corrupted images using long-range correlation. IEEE Signal Processing Letters, 1998, 5, 4-7.	3.7	69
52	Multi-exposure image fusion: A patch-wise approach. , 2015, , .		67
53	Image information restoration based on long-range correlation. IEEE Transactions on Circuits and Systems for Video Technology, 2002, 12, 331-341.	8.4	66
54	End-to-End Blind Quality Assessment of Compressed Videos Using Deep Neural Networks. , 2018, , .		66

#	ARTICLE	IF	CITATIONS
55	Objective Quality Assessment for Color-to-Gray Image Conversion. IEEE Transactions on Image Processing, 2015, 24, 4673-4685.	9.9	64
56	Bitplane-by-bitplane shift (BbBShift) - A suggestion for JPEG2000 region of interest image coding. IEEE Signal Processing Letters, 2002, 9, 160-162.	3.7	62
57	Objective Quality Assessment and Perceptual Compression of Screen Content Images. IEEE Computer Graphics and Applications, 2018, 38, 47-58.	1.2	62
58	Video quality assessment using structural distortion measurement. , 0, , .		59
59	Group MAD Competition? A New Methodology to Compare Objective Image Quality Models. , 2016, , .		56
60	SSIM-inspired image restoration using sparse representation. Eurasip Journal on Advances in Signal Processing, 2012, 2012, .	1.7	54
61	Spherical Structural Similarity Index for Objective Omnidirectional Video Quality Assessment. , 2018, , .		53
62	Structural Approaches to Image Quality Assessment. , 2005, , 961-974.		51
63	The impact of video-quality-level switching on user quality of experience in dynamic adaptive streaming over HTTP. Eurasip Journal on Wireless Communications and Networking, 2014, 2014, .	2.4	39
64	Asymmetrically Compressed Stereoscopic 3D Videos: Quality Assessment and Rate-Distortion Performance Evaluation. IEEE Transactions on Image Processing, 2017, 26, 1330-1343.	9.9	38
65	SSIM-based non-local means image denoising. , 2011, , .		37
66	Image Deblurring Using Derivative Compressed Sensing for Optical Imaging Application. IEEE Transactions on Image Processing, 2012, 21, 3139-3149.	9.9	37
67	Perceptual Quality Assessment of 3d Point Clouds. , 2019, , .		36
68	Deep Blur Mapping: Exploiting High-Level Semantics by Deep Neural Networks. IEEE Transactions on Image Processing, 2018, 27, 5155-5166.	9.9	35
69	Perceptual Image Coding Based on a Maximum of Minimal Structural Similarity Criterion. , 2007, , .		32
70	Quality prediction of asymmetrically distorted stereoscopic images from single views. , 2014, , .		32
71	Objective Quality Assessment for Multiexposure Multifocus Image Fusion. IEEE Transactions on Image Processing, 2015, 24, 2712-2724.	9.9	32
72	Palmprint Verification using Complex Wavelet Transform. , 2007, , .		31

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73	Objective Quality Assessment of Interpolated Natural Images. IEEE Transactions on Image Processing, 2015, 24, 4651-4663.	9.9	31
74	SSIM-Inspired Perceptual Video Coding for HEVC. , 2012, , .		30
75	Perceptual Evaluation for Multi-Exposure Image Fusion of Dynamic Scenes. IEEE Transactions on Image Processing, 2020, 29, 1127-1138.	9.9	29
76	Stimulus synthesis for efficient evaluation and refinement of perceptual image quality metrics. , 2004, , .		28
77	SSIM-Motivated Two-Pass VBR Coding for HEVC. IEEE Transactions on Circuits and Systems for Video Technology, 2017, 27, 2189-2203.	8.4	27
78	Quality-of-Experience for Adaptive Streaming Videos: An Expectation Confirmation Theory Motivated Approach. IEEE Transactions on Image Processing, 2018, 27, 6135-6146.	9.9	27
79	Perceptual quality assessment of color images using adaptive signal representation. Proceedings of SPIE, 2010, , .	0.8	26
80	CW-SSIM based image classification. , 2011, , .		26
81	Subjective quality assessment of Screen Content Images. , 2014, , .		25
82	Perceptual Depth Quality in Distorted Stereoscopic Images. IEEE Transactions on Image Processing, 2017, 26, 1202-1215.	9.9	25
83	<title>Foveated wavelet image quality index</title>. , 2001, , .		24
84	Image Quality Assessment. , 2009, , 553-595.		24
85	Image classification based on complex wavelet structural similarity. Signal Processing: Image Communication, 2013, 28, 984-992.	3.3	24
86	Display device-adapted video quality-of-experience assessment. Proceedings of SPIE, 2015, , .	0.8	24
87	Generalized bitplane-by-bitplane shift method for JPEG2000 ROI coding. , 0, , .		23
88	Measuring Intra- and Inter-Observer Agreement in Identifying and Localizing Structures in Medical Images. , 2006, , .		23
89	Reduced-reference SSIM estimation. , 2010, , .		22
90	Quality-of-experience of streaming video: Interactions between presentation quality and playback stalling. , 2016, , .		22

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91	Structural Similarity-Based Approximation of Signals and Images Using Orthogonal Bases. Lecture Notes in Computer Science, 2010, , 11-22.	1.3	21
92	Video saliency incorporating spatiotemporal cues and uncertainty weighting. , 2013, , .		21
93	Characterizing perceptual artifacts in compressed video streams. Proceedings of SPIE, 2014, , .	0.8	21
94	Quality-of-Experience of Adaptive Video Streaming. , 2017, , .		21
95	Objective assessment of tone mapping algorithms. , 2010, , .		20
96	The Use of Residuals in Image Denoising. Lecture Notes in Computer Science, 2009, , 1-12.	1.3	20
97	Structural Similarity Based Image Quality Assessment. , 2017, , 225-242.		20
98	Rate-SSIM optimization for video coding. , 2011, , .		19
99	SSIM-Based Coarse-Grain Scalable Video Coding. IEEE Transactions on Broadcasting, 2015, 61, 210-221.	3.2	19
100	Foveated Image and Video Coding. Signal Processing and Communications, 2005, , 423-457.	0.2	19
101	Generic image similarity based on Kolmogorov complexity. , 2010, , .		18
102	Temporal motion smoothness measurement for reduced-reference video quality assessment. , 2010, , .		18
103	SSIM-inspired image denoising using sparse representations. , 2011, , .		18
104	Perceptual screen content image quality assessment and compression. , 2015, , .		18
105	A Class of Image Metrics Based on the Structural Similarity Quality Index. Lecture Notes in Computer Science, 2011, , 100-110.	1.3	18
106	Objective quality assessment for image super-resolution: A natural scene statistics approach. , 2012, , .		17
107	Perceptual quality assessment of high frame rate video. , 2015, , .		17
108	3D-SSIM for video quality assessment. , 2012, , .		16

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109	Image distortion analysis based on normalized perceptual information distance. Signal, Image and Video Processing, 2013, 7, 403-410.	2.7	16
110	AVC, HEVC, VP9, AVS2 or AV1? A Comparative Study of State-of-the-Art Video Encoders on 4K Videos. Lecture Notes in Computer Science, 2019, , 162-173.	1.3	16
111	On the use of SSIM in HEVC. , 2013, , .		15
112	High dynamic range image tone mapping by optimizing tone mapped image quality index. , 2014, , .		15
113	An adaptive linear system framework for image distortion analysis. , 2005, , .		14
114	Quantifying color image distortions based on adaptive spatio-chromatic signal decompositions. , 2009, , .		14
115	SSIM-inspired divisive normalization for perceptual video coding. , 2011, , .		14
116	PEA265: Perceptual Assessment of Video Compression Artifacts. IEEE Transactions on Circuits and Systems for Video Technology, 2020, 30, 3898-3910.	8.4	14
117	Full-reference video quality assessment considering structural distortion and no-reference quality evaluation of MPEG video. , 0, , .		13
118	Perceptual experience of time-varying video quality. , 2013, , .		13
119	SSIM-inspired two-pass rate control for High Efficiency Video Coding. , 2015, , .		13
120	Objective Image Quality Assessment: Facing The Real-World Challenges. IS&T International Symposium on Electronic Imaging, 2016, 28, 1-6.	0.4	13
121	Perceptual aliasing factors and the impact of frame rate on video quality. , 2017, , .		13
122	A novel approach for reduction of blocking effects in low-bit-rate image compression. IEEE Transactions on Communications, 1998, 46, 732-734.	7.8	12
123	Learning-Based Quality Assessment for Image Super-Resolution. IEEE Transactions on Multimedia, 2022, 24, 3570-3581.	7.4	12
124	Quantifying Visual Image Quality: A Bayesian View. Annual Review of Vision Science, 2021, 7, 437-464.	4.5	12
125	Video Quality Assessment by Incorporating a Motion Perception Model. , 2007, , .		11
126	Special issue on human vision and information theory. Signal, Image and Video Processing, 2013, 7, 389-390.	2.7	11

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127	The quest for 'diagnostically lossless' medical image compression: a comparative study of objective quality metrics for compressed medical images. Proceedings of SPIE, 2014, , .	0.8	11
128	Perceptual Quality Assessment of UHD-HDR-WCG Videos. , 2019, , .		11
129	Hierarchical Semantic Risk Minimization for Large-Scale Classification. IEEE Transactions on Cybernetics, 2022, 52, 9546-9558.	9.6	11
130	Facial Range Image Matching Using the ComplexWavelet Structural Similarity Metric. Proceedings IEEE Workshop on Applications of Computer Vision, 2007, , .	0.0	10
131	Quality prediction of asymmetrically compressed stereoscopic videos. , 2015, , .		10
132	Quality-of-experience prediction for streaming video. , 2016, , .		10
133	Structural Similarity-Based Affine Approximation and Self-similarity of Images Revisited. Lecture Notes in Computer Science, 2011, , 264-275.	1.3	10
134	Quality-Aware Video. , 2007, , .		9
135	A Bayesian approach for the alignment of high-resolution NMR spectra. Annals of Operations Research, 2010, 174, 19-32.	4.1	9
136	FocusLiteNN: High Efficiency Focus Quality Assessment for Digital Pathology. Lecture Notes in Computer Science, 2020, , 403-413.	1.3	9
137	Gradient-based surface reconstruction using compressed sensing. , 2012, , .		8
138	Geodesics of the Structural Similarity index. Applied Mathematics Letters, 2012, 25, 1921-1925.	2.8	8
139	Polyview Fusion: A Strategy to Enhance Video-Denoising Algorithms. IEEE Transactions on Image Processing, 2012, 21, 2324-2328.	9.9	8
140	High dynamic range image tone mapping by maximizing a structural fidelity measure. , 2013, , .		8
141	Surface Reconstruction in Gradient-Field Domain Using Compressed Sensing. IEEE Transactions on Image Processing, 2015, 24, 1628-1638.	9.9	8
142	Quality assessment of multi-view-plus-depth images. , 2017, , .		8
143	Geometric Transformation Invariant Image Quality Assessment Using Convolutional Neural Networks. , 2018, , .		8
144	Temporal Motion Smoothness and the Impact of Frame Rate Variation on Video Quality. , 2018, , .		8

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145	Foveated Image and Video Coding. , 2017, , 431-458.		8
146	Why is image quality assessment so difficult?. , 2002, , .		7
147	Objective quality assessment of tone-mapped videos. , 2016, , .		7
148	Perceptual Quality Assessment of Medical Images. , 2019, , 588-596.		7
149	Capturing Banding in Images: Database Construction and Objective Assessment. , 2021, , .		7
150	Rate scalable video coding using a foveation-based human visual system model. , 0, , .		6
151	General-purpose reduced-reference image quality assessment based on perceptually and statistically motivated image representation. , 2008, , .		6
152	Video denoising using a spatiotemporal statistical model of wavelet coefficients. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	6
153	Multi-sensor image registration based-on local phase coherence. , 2009, , .		6
154	Perceptual evaluation of multi-exposure image fusion algorithms. , 2014, , .		6
155	Perceptual quality assessment of HDR deghosting algorithms. , 2017, , .		6
156	Adaptive Windowing for Optimal Visualization of Medical Images Based on a Structural Fidelity Measure. Lecture Notes in Computer Science, 2012, , 321-330.	1.3	6
157	Perceptual evaluation of image denoising algorithms. , 2013, , .		5
158	Objective video presentation QoE predictor for smart adaptive video streaming. Proceedings of SPIE, 2015, , .	0.8	5
159	Depth perception of distorted stereoscopic images. , 2015, , .		5
160	Quality-aware video based on robust embedding of intra- and inter-frame reduced-reference features. , 2010, , .		4
161	Quality assessment of images undergoing multiple distortion stages. , 2017, , .		4
162	Blind Quality Assessment of Multiply Distorted Images Using Deep Neural Networks. Lecture Notes in Computer Science, 2019, , 89-101.	1.3	4

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163	Some "Weberized" ² -Based Methods of Signal/Image Approximation. Lecture Notes in Computer Science, 2014, , 20-29.	1.3	4
164	Optimizing Image Quality. , 2018, , 15-41.		4
165	A Bayesian Quality-of-Experience Model for Adaptive Streaming Videos. ACM Transactions on Multimedia Computing, Communications and Applications, 2022, 18, 1-24.	4.4	4
166	CW-SSIM kernel based random forest for image classification. , 2010, , .		3
167	Adaptive frame prediction for foveation scalable video coding. , 2001, , .		2
168	Foveated multipoint videoconferencing at low bit rates. , 2002, , .		2
169	The impact of skull bone intensity on the quality of compressed CT neuro images. Proceedings of SPIE, 2012, , .	0.8	2
170	Adaptive windowing for optimal visualization of medical images based on normalized information distance. , 2014, , .		2
171	Blind Quality Prediction of Stereoscopic 3D Images. IS&T International Symposium on Electronic Imaging, 2017, 29, 70-76.	0.4	2
172	Characterizing Generalized Rate-Distortion Performance of Video Coding: An Eigen Analysis Approach. IEEE Transactions on Image Processing, 2020, 29, 6180-6193.	9.9	2
173	Real Versus Fake 4k - Authentic Resolution Assessment. , 2021, , .		2
174	Contextually adaptive signal representation using conditional principal component analysis. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	1
175	Multi-operator retargeting based on perceptual structural similarity. , 2014, , .		1
176	On SSIM-bit rate comparison of HEVC encoders. , 2015, , .		1
177	Modeling Generalized Rate-Distortion Functions. IEEE Transactions on Image Processing, 2020, 29, 7331-7344.	9.9	1
178	Image quality assessment: from error visibility to structural similarity. , 0, .		1
179	Foveated multipoint videoconferencing at low bit rates. , 2002, , .		1
180	4K or Not? - Automatic Image Resolution Assessment. Lecture Notes in Computer Science, 2020, , 61-65.	1.3	1

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181	Understanding Bandingâ€™ Perceptual Modeling and Machine Learning Approaches for Banding Detection. Smpte Motion Imaging Journal, 2022, 131, 35-41.	0.2	1
182	<title>Human-visual-system-based scalable video coding and communications</title>. , 2002, 4925, 219.		0
183	Automatic Alignment of High-Resolution NMR Spectra Using a Bayesian Estimation Approach. , 2006, , .		0
184	PERCEPTUAL NORMALIZED INFORMATION DISTANCE FOR IMAGE DISTORTION ANALYSIS BASED ON KOLMOGOROV COMPLEXITY. , 2011, , .		0
185	Data rate and dynamic range compression of medical images: Which one goes first?. , 2015, , .		0
186	Information Distance based Photoshop Metric. , 2018, , .		0
187	Perceptually Inspired Normalized Conditional Compression Distance. , 2019, , .		0
188	Perceptual Colour Difference Uniformity in High Dynamic Range and Wide Colour Gamut. , 2020, , .		0
189	Enhancing Video Denoising Algorithms by Fusion from Multiple Views. Lecture Notes in Computer Science, 2011, , 1-10.	1.3	0
190	Structural and Information Theoretic Approaches to Image Quality Assessment. , 2018, , 473-500.		0