David S Taubman

List of Publications by Year
in descending order

156 papers	4,159 citations	516710 16 h-index	233421 45 g-index
158 all docs	158 docs citations	158 times ranked	1577 citing authors

#	ARTICLE	IF	CITATIONS
1	JPEG2000 Image Compression Fundamentals, Standards and Practice. , 2002, , .		1,390
2	JPEG2000: Image Compression Fundamentals, Standards and Practice. Journal of Electronic Imaging, 2002, 11, 286.	0.9	1,293
3	Lifting-based invertible motion adaptive transform (LIMAT) framework for highly scalable video compression. IEEE Transactions on Image Processing, 2003, 12, 1530-1542.	9.8	202
4	Highly scalable video compression with scalable motion coding. IEEE Transactions on Image Processing, 2004, 13, 1029-1041.	9.8	93
5	A Mathematical Model of Human Semicircular Canal Geometry: A New Basis for Interpreting Vestibular Physiology. JARO - Journal of the Association for Research in Otolaryngology, 2010, 11, 145-159.	1.8	86
6	Embedded block coding in JPEG 2000. Signal Processing: Image Communication, 2002, 17, 49-72.	3.2	78
7	<title>Architecture, philosophy, and performance of JPIP: internet protocol standard for JPEG2000</title>. , 2003, , .		45
8	Scalable Coding of Depth Maps With R-D Optimized Embedding. IEEE Transactions on Image Processing, 2013, 22, 1982-1995.	9.8	44
9	An efficient content-adaptive motion-compensated 3-D DWT with enhanced spatial and temporal scalability. IEEE Transactions on Image Processing, 2006, 15, 1397-1412.	9.8	39
10	Quad-Tree Motion Modeling With Leaf Merging. IEEE Transactions on Circuits and Systems for Video Technology, 2010, 20, 1331-1345.	8.3	37
11	Simulated prosthetic visual fixation, saccade, and smooth pursuit. Vision Research, 2005, 45, 775-788.	1.4	34
12	A flexible structure for fully scalable motion-compensated 3-D DWT with emphasis on the impact of spatial scalability. IEEE Transactions on Image Processing, 2006, 15, 740-753.	9.8	34
13	<title>Successive refinement of video: fundamental issues, past efforts, and new directions</title>. , 2003, 5150, 649.		28
14	Optimal Erasure Protection Assignment for Scalable Compressed Data with Small Channel Packets and Short Channel Codewords. Eurasip Journal on Advances in Signal Processing, 2004, 2004, 1.	1.7	25
15	COGL: Coefficient Graph Laplacians for Optimized JPEG Image Decoding. IEEE Transactions on Image Processing, 2019, 28, 343-355.	9.8	22
16	Non-Line-of-Sight Surface Reconstruction Using the Directional Light-Cone Transform. , 2020, , .		22
17	Transform and embedded coding techniques for maximum efficiency and random accessibility in 3-D scalable compression. IEEE Transactions on Image Processing, 2005, 14, 1632-1646.	9.8	20
18	Responsive high throughput congestion control for interactive applications over SDN-enabled networks. Computer Networks, 2018, 134, 152-166.	5.1	19

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19	Optimal erasure protection for scalably compressed video streams with limited retransmission. IEEE Transactions on Image Processing, 2005, 14, 1006-1019.	9.8	17
20	JPEG2000-Based Scalable Interactive Video (JSIV). IEEE Transactions on Image Processing, 2011, 20, 1435-1449.	9.8	17
21	A novel framework for the interactive transmission of 3D scenes. Signal Processing: Image Communication, 2006, 21, 787-811.	3.2	15
22	Perceptual Optimization for Scalable Video Compression Based on Visual Masking Principles. IEEE Transactions on Circuits and Systems for Video Technology, 2009, 19, 309-322.	8.3	15
23	Scalable Modeling of Motion and Boundary Geometry With Quad-Tree Node Merging. IEEE Transactions on Circuits and Systems for Video Technology, 2011, 21, 178-192.	8.3	15
24	Spatially Continuous Orientation Adaptive Discrete Packet Wavelet Decomposition for Image Compression. , 2006, , .		14
25	Highly Scalable Coding of Depth Maps with Arc Breakpoints. , 2012, , .		14
26	Inter-frame prediction using motion hints. , 2013, , .		14
27	Motion hints based inter-frame prediction for hybrid video coding. , 2013, , .		13
28	Motion segmentation initialization strategies for bi-directional inter-frame prediction. , 2013, , .		13
29	Base-Anchored Model for Highly Scalable and Accessible Compression of Multiview Imagery. IEEE Transactions on Image Processing, 2019, 28, 3205-3218.	9.8	13
30	Hierarchical and Polynomial Motion Modeling with Quad-Tree Leaf Merging. , 2006, , .		12
31	JPEG2000-Based Scalable Interactive Video (JSIV) With Motion Compensation. IEEE Transactions on Image Processing, 2011, 20, 2650-2663.	9.8	12
32	A Novel Paradigm for Optimized Scalable Video Transmission Based on JPEG2000 with Motion. , 2007, , .		11
33	Efficient communication of video using metadata. , 2011, , .		11
34	Optimal erasure protection strategy for scalably compressed data with tree-structured dependencies. IEEE Transactions on Image Processing, 2005, 14, 2002-2011.	9.8	10
35	Distributed source coding based on punctured conditional arithmetic codes. , 2010, , .		10
36	A Filtering Approach to Edge Preserving MAP Estimation of Images. IEEE Transactions on Image Processing, 2011, 20, 1234-1248.	9.8	10

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37	Homogeneous motion discovery oriented reference frame for high efficiency video coding. , 2016, , .		10
38	HEVC-EPIC: Fast Optical Flow Estimation From Coded Video via Edge-Preserving Interpolation. IEEE Transactions on Image Processing, 2018, 27, 3100-3113.	9.8	10
39	Illumination Estimation and Compensation of Low Frame Rate Video Sequences for Wavelet-Based Video Compression. IEEE Transactions on Image Processing, 2019, 28, 4313-4327.	9.8	10
40	Fast Optical Flow Extraction From Compressed Video. IEEE Transactions on Image Processing, 2020, 29, 6409-6421.	9.8	10
41	Dynamic Point Cloud Compression Using A Cuboid Oriented Discrete Cosine Based Motion Model. , 2021, , .		10
42	Localized Distortion Estimation from Already Compressed JPEG2000 Images. , 2006, , .		9
43	Motion hints mode for macroblock coding in bi-predictive slices. , 2015, , .		9
44	A Novel Motion Field Anchoring Paradigm for Highly Scalable Wavelet-Based Video Coding. IEEE Transactions on Image Processing, 2016, 25, 39-52.	9.8	9
45	Gaussian Lifting for Fast Bilateral and Nonlocal Means Filtering. IEEE Transactions on Image Processing, 2020, 29, 6082-6095.	9.8	9
46	Dynamic Point Cloud Geometry Compression using Cuboid based Commonality Modeling Framework. , 2021, , .		9
47	Coupled distributed arithmetic coding. , 2011, , .		8
48	Joint estimation of motion and arc breakpoints for scalable compression. , 2013, , .		8
49	Enhanced Homogeneous Motion Discovery Oriented Prediction for Key Intermediate Frames. , 2018, , .		8
50	Temporally consistent high frame-rate upsampling with motion sparsification. , 2016, , .		7
51	High Throughput Block Coding in the HTJ2K Compression Standard. , 2019, , .		7
52	Optimized scalable video transmission based on conditional replenishment of jpeg2000 code-blocks with motion compensation. , 2007, , .		6
53	Motion Modeling with Geometry and Quad-tree Leaf Merging. , 2007, , .		6
54	Efficient Interfacing of DWT and EBCOT in JPEG2000. IEEE Transactions on Circuits and Systems for Video Technology, 2008, 18, 687-693.	8.3	6

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55	Rate-distortion optimized delivery of JPEG2000 compressed video with hierarchical motion side information. , 2008, , .		6
56	JPIP proxy server for remote browsing of JPEG2000 images. , 2008, , .		6
57	Optimal PET Protection for Streaming Scalably Compressed Video Streams With Limited Retransmission Based on Incomplete Feedback. IEEE Transactions on Image Processing, 2010, 19, 2382-2395.	9.8	6
58	PET Protection Optimization for Streaming Scalable Videos With Multiple Transmissions. IEEE Transactions on Image Processing, 2013, 22, 4364-4379.	9.8	6
59	A soft measure for identifying structure from randomness in images. , 2013, , .		6
60	Hierarchical anchoring of motion fields for fully scalable video coding. , 2014, , .		6
61	Light-field image compression based on variational disparity estimation and motion-compensated wavelet decomposition. , 2017, , .		6
62	Temporal Frame Interpolation With Motion-Divergence-Guided Occlusion Handling. IEEE Transactions on Circuits and Systems for Video Technology, 2019, 29, 293-307.	8.3	6
63	Graph Laplacian Regularization for Robust Optical Flow Estimation. IEEE Transactions on Image Processing, 2020, 29, 3970-3983.	9.8	6
64	Human-Machine Collaborative Video Coding Through Cuboidal Partitioning. , 2021, , .		6
65	A Coarse Representation of Frames Oriented Video Coding By Leveraging Cuboidal Partitioning of Image Data. , 2020, , .		6
66	Scalable Mesh Representation for Depth from Breakpoint-Adaptive Wavelet Coding. , 2020, , .		6
67	Optimal erasure protection for scalably compressed video streams with limited retransmission on channels with IID and bursty loss characteristics. Signal Processing: Image Communication, 2005, 20, 697-709.	3.2	5
68	Motion modeling with separate quad-tree structures for geometry and motion. , 2008, , .		5
69	Robust dense block-based motion estimation using a 2-bit transform on a Laplacian pyramid. , 2013, , .		5
70	Bidirectional hierarchical anchoring of motion fields for scalable video coding. , 2014, , .		5
71	Bidirectional, occlusion-aware temporal frame interpolation in a highly scalable video setting. , 2015, , .		5
72	Motion Estimation Based on Mutual Information and Adaptive Multi-Scale Thresholding. IEEE Transactions on Image Processing, 2016, 25, 1095-1108.	9.8	5

#	Article	IF	Citations
73	Decoding High-Throughput Jpeg2000 (HTJ2K) On A G. , 2019, , .		5
74	FBCOT: a fast block coding option for JPEG 2000. , 2017, , .		5
75	Server Policies For Interactive Transmission Of 3D Scenes. , 2006, , .		4
76	Psychophysics of Prosthetic Vision: III. Stochastic Rendering, the Phosphene Image, and Perception. , 2006, 2006, 1169-72.		4
77	Novel Distortion Estimation Technique for Hardware-Based JPEG2000 Encoder System. IEEE Transactions on Circuits and Systems for Video Technology, 2007, 17, 918-923.	8.3	4
78	Distortion estimation for optimized delivery of JPEG2000 compressed video with motion. , 2008, , .		4
79	Rate-distortion optimized JPEG2000-based scalable interactive video (JSIV) with motion and quantization bin side-information. , 2009, , .		4
80	Embedded coding of optical flow fields for scalable video compression. , 2014, , .		4
81	Nonlinear Transform for Robust Dense Block-Based Motion Estimation. IEEE Transactions on Image Processing, 2014, 23, 2222-2234.	9.8	4
82	Occlusion-aware temporal frame interpolation in a highly scalable video coding setting. APSIPA Transactions on Signal and Information Processing, 2016, 5, .	3.3	4
83	Optimization and compression of geometry discontinuities for graph-based representation of piecewise smooth media. , 2016, , .		4
84	Progressive Dictionary Learning With Hierarchical Predictive Structure for Low Bit-Rate Scalable Video Coding. IEEE Transactions on Image Processing, 2017, 26, 2972-2987.	9.8	4
85	High Throughput JPEG 2000 (HTJ2K): New Algorithms and Opportunities. Smpte Motion Imaging Journal, 2018, 127, 1-7.	0.2	4
86	Rate-Distortion Optimized Illumination Estimation for Wavelet-Based Video Coding. , 2018, , .		4
87	WaSP Encoder with Breakpoint Adaptive DWT Coding of Disparity Maps. , 2019, , .		4
88	Efficient Scalable UHD/360-Video Coding by Exploiting Common Information With Cuboid-Based Partitioning. IEEE Transactions on Circuits and Systems for Video Technology, 2022, 32, 3961-3977.	8.3	4
89	Improvements to the Intra-Coding Modes Offered by H.264. , 2005, , .		3
90	LR-PET Optimization Strategy for Protection of Scalable Video with Unreliable Acknowledgement. , 2006, , .		3

#	Article	IF	Citations
91	Optimal delivery of motion JPEG2000 over JPIP with block-wise truncation of quality layers. , 2008, , .		3
92	A content-adaptive wavelet-like transform for aliasing suppression in image and video compression. , 2009, , .		3
93	Optimal linear detector for spread spectrum based multidimensional signal watermarking. , 2009, , .		3
94	Predictor selection using quantization intervals in JPEG2000-Based Scalable Interactive Video (JSIV). , 2010, , .		3
95	Lifting-based Illumination Adaptive Transform (LIAT) using mesh-based illumination modelling. , 2017, , .		3
96	Encoding High-Throughput Jpeg2000 (Htj2k) Images On A Gpu. , 2020, , .		3
97	Rate-Distortion Driven Decomposition of Multiview Imagery to Diffuse and Specular Components. IEEE Transactions on Image Processing, 2020, 29, 5469-5480.	9.8	3
98	Teaching Signal Processing Through Frequent and Diverse Design: A Pedagogical Approach. IEEE Signal Processing Magazine, 2021, 38, 133-143.	5.6	3
99	Machine-Learning Based Secondary Transform for Improved Image Compression in JPEG2000. , 2021, , .		3
100	Efficient Low Bit-Rate Intra-Frame Coding using Common Information for 360-degree Video. , 2020, , .		3
101	Fully scalable video compression with sample-adaptive lifting and overlapped block motion. , 2005, , .		2
102	Antialiasing Scalable Video with a Modulated Lifting Structure. , 2007, , .		2
103	Interpolation Specific Resolution Synthesis. , 2007, , .		2
104	Joint scalable modeling of motion and boundary geometry with quad-tree node merging. , 2009, , .		2
105	Augmented Active Surface Model for the Recovery of Small Structures in CT. IEEE Transactions on Image Processing, 2013, 22, 4394-4406.	9.8	2
106	Robust sum of Linear-Log Squared Differences distortion measure and its applications. , 2013, , .		2
107	A novel technique for geometrically robust blind image watermarking extraction. , 2013, , .		2
108	Overlapping motion hints with polynomial motion for video communication. , 2014, , .		2

#	Article	IF	Citations
109	Efficient action recognition from compressed depth maps. , 2016, , .		2
110	Leveraging decoded HEVC motion for fast, high quality optical flow estimation. , 2017, , .		2
111	HEVC-EPIC: Edge-preserving interpolation of coded HEVC motion with applications to framerate upsampling. , 2017, , .		2
112	Spatial Wiener filter to reduce spatial aliasing with spherical microphone arrays. Journal of the Acoustical Society of America, 2019, 145, 2254-2264.	1.1	2
113	Consistent Disparity Synthesis for Inter-View Prediction in Lightfield Compression. , 2019, , .		2
114	A Matlab Implementation of the Emerging HTJ2K Standard. , 2019, , .		2
115	Solving Vision Problems via Filtering. , 2019, , .		2
116	Adaptive Secondary Transform For Improved Image Coding Efficiency In JPEG2000. , 2020, , .		2
117	Efficient High-Resolution Video Compression Scheme Using Background and Foreground Layers. IEEE Access, 2021, 9, 157411-157421.	4.2	2
118	Efficient Memory Organization and Data Transfer Technique for DWT- EBCOT Integration of JPEG2000. Midwest Symposium on Circuits and Systems, 2006, , .	1.0	1
119	Distortion-Sensitive Synthesis of Texture and Geometry in Interactive 3D Visualization. , 2006, , .		1
120	Minimizing the Perceptual Impact of Visual Distortion in Scalable Wavelet Compressed Video. , 2006, , .		1
121	Efficient Data Transfer Techniques and VLSI architecture for DWT-Block Coder Integration of JPEG2000 Encoder. , 2007, , .		1
122	Optimal LR-PET protection for scalable video streams over lossy channels with random delay. , 2008, , .		1
123	Active surface modeling at CT resolution limits with micro CT ground truth. , 2008, , .		1
124	Joint motion and geometry modeling with quad-tree leaf merging. , 2008, , .		1
125	Mixed content image compression by gradient field integration. , 2008, , .		1
126	Scalable depth maps with R-D optimized embedding. , 2012, , .		1

#	Article	IF	Citations
127	Design proficiency - A novel Electrical Engineering course. , 2012, , .		1
128	Multithreaded processing paradigms for JPEG2000. , 2012, , .		1
129	Block motion matching on directional subbands with interband suppression. , 2014, , .		1
130	Flexible Synthesis of Video Frames Based on Motion Hints. IEEE Transactions on Image Processing, 2014, 23, 3802-3815.	9.8	1
131	Optimization of optical flow for scalable coding. , 2015, , .		1
132	Motion blur modelling for hierarchically anchored motion with discontinuities. , 2015, , .		1
133	Higher-order motion models for temporal frame interpolation with applications to video coding. , 2016, , .		1
134	Fast Optical Flow Extraction from Compressed Video. , 2018, , .		1
135	Efficient Delivery of Very High Dynamic Range Compressed Imagery by Dynamic-Range-of-Interest. , 2019, , .		1
136	Augmenting JPEG2000 With Wavelet Coefficient Prediction. , 2020, , .		1
137	Welsch Based Multiview Disparity Estimation. , 2021, , .		1
138	High Throughput JPEG 2000 for Video Content Production and Delivery Over IP Networks. Frontiers in Signal Processing, 2022, 2, .	1.7	1
139	<title>Rate- and resolution-scalable 3D subband coding of video</title>. , 1994, 2187, 104.		0
140	<title>Network distribution of highly scalable VBR video traffic</title>. , 1995, , .		0
141	<title>Summary of technology and testbed for JPEG 2000</title>. , 2000, , .		0
142	A Novel Image Capture System for Use in Telehealth Applications. , 2006, 2006, 4743-6.		0
143	Reduced workload block coding in JPEG2000. , 2007, , .		0
144	Analysis of Multiple Parallel Block Coding in JPEG2000. , 2007, , .		0

#	Article	IF	Citations
145	A Rate Distortion Framework for 3D Browsing. , 2007, , .		0
146	Orientation Adaptive Discrete Packet Wavelet Decomposition via Shifting Operators for Image Compression. , 2007, , .		0
147	Improving the resolution scalability of orientation adaptive wavelets. , 2008, , .		0
148	Scalable video compression and spatiotemporal scalability with lifted pyramid and antialiased DWT schemes. , 2008, , .		0
149	Spatial induction policies for scalable depth coding. , 2015, , .		0
150	Motion estimation with accurate boundaries. , 2015, , .		0
151	Rate-distortion optimized optical flow estimation. , 2015, , .		0
152	Optimizing block-coded motion parameters with block-partition graphs. , 2016, , .		0
153	Optimized decoding of JPEG images based on generalized graph Laplacians. , 2016, , .		0
154	Disparity Guided Texture Inpainting for Light Field View Synthesis. , 2018, , .		0
155	Rate-Distortion Driven Separation of Diffuse and Specular Components in Multiview Imagery. , 2019, , .		0
156	Psychophysics of Prosthetic Vision: III. Stochastic Rendering, the Phosphene Image, and Perception. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0