

David S Taubman

List of Publications by Year in descending order

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156
papers

4,159
citations

516215

16
h-index

233125

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. | 0.5 | 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. | 6.0 | 202 |
| 4 | Highly scalable video compression with scalable motion coding. IEEE Transactions on Image Processing, 2004, 13, 1029-1041. | 6.0 | 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. | 0.9 | 86 |
| 6 | Embedded block coding in JPEG 2000. Signal Processing: Image Communication, 2002, 17, 49-72. | 1.8 | 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. | 6.0 | 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. | 6.0 | 39 |
| 10 | Quad-Tree Motion Modeling With Leaf Merging. IEEE Transactions on Circuits and Systems for Video Technology, 2010, 20, 1331-1345. | 5.6 | 37 |
| 11 | Simulated prosthetic visual fixation, saccade, and smooth pursuit. Vision Research, 2005, 45, 775-788. | 0.7 | 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. | 6.0 | 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. | 1.0 | 25 |
| 15 | COGL: Coefficient Graph Laplacians for Optimized JPEG Image Decoding. IEEE Transactions on Image Processing, 2019, 28, 343-355. | 6.0 | 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. | 6.0 | 20 |
| 18 | Responsive high throughput congestion control for interactive applications over SDN-enabled networks. Computer Networks, 2018, 134, 152-166. | 3.2 | 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. | 6.0 | 17 |
| 20 | JPEG2000-Based Scalable Interactive Video (JSIV). IEEE Transactions on Image Processing, 2011, 20, 1435-1449. | 6.0 | 17 |
| 21 | A novel framework for the interactive transmission of 3D scenes. Signal Processing: Image Communication, 2006, 21, 787-811. | 1.8 | 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. | 5.6 | 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. | 5.6 | 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. | 6.0 | 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. | 6.0 | 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. | 6.0 | 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. | 6.0 | 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. | 6.0 | 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. | 6.0 | 10 |
| 40 | Fast Optical Flow Extraction From Compressed Video. IEEE Transactions on Image Processing, 2020, 29, 6409-6421. | 6.0 | 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. | 6.0 | 9 |
| 45 | Gaussian Lifting for Fast Bilateral and Nonlocal Means Filtering. IEEE Transactions on Image Processing, 2020, 29, 6082-6095. | 6.0 | 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. | 5.6 | 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. | 6.0 | 6 |
| 58 | PET Protection Optimization for Streaming Scalable Videos With Multiple Transmissions. IEEE Transactions on Image Processing, 2013, 22, 4364-4379. | 6.0 | 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. | 5.6 | 6 |
| 63 | Graph Laplacian Regularization for Robust Optical Flow Estimation. IEEE Transactions on Image Processing, 2020, 29, 3970-3983. | 6.0 | 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. | 1.8 | 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. | 6.0 | 5 |

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| 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. | 5.6 | 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. | 6.0 | 4 |
| 82 | Occlusion-aware temporal frame interpolation in a highly scalable video coding setting. APSIPA Transactions on Signal and Information Processing, 2016, 5, . | 2.6 | 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. | 6.0 | 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. | 5.6 | 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 |

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| 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. | 6.0 | 3 |
| 98 | Teaching Signal Processing Through Frequent and Diverse Design: A Pedagogical Approach. IEEE Signal Processing Magazine, 2021, 38, 133-143. | 4.6 | 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. | 6.0 | 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 |

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| 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. | 0.5 | 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. | 2.6 | 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 |
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| 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. | 6.0 | 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, . | 1.2 | 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 |

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| 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 |