CURRICULUM VITAE

Zhou Wang
Department of Electrical and Computer Engineering
University of Waterloo
200 University Ave W, Waterloo, Ontario, N2L 3G1, Canada
Email: zhou.wang@uwaterloo.ca
Web: http://www.ece.uwaterloo.ca/~z70wang/

Positions

- 2019 – present, Canada Research Chair, Natural Sciences and Engineering Research Council (NSERC)
- 2018 – 2019, University Research Chair, University of Waterloo
- 2015 – present, Professor, Dept. of Electrical & Computer Engineering, University of Waterloo
- 2013 – 2022, Co-Founder and Chief Scientist, SSIMWAVE Inc.
- 2011 – 2015, Associate Professor, Dept. Electrical & Computer Engineering, University of Waterloo
- 2007 – 2011, Assistant Professor, Dept. of Electrical & Computer Engineering, University of Waterloo
- 2005 – 2007, Assistant Professor, Dept. of Electrical Engineering, University of Texas at Arlington
- 2002 – 2005, Howard Hughes Postdoctoral Research Associate, New York University

Education

- 2001, Ph.D., Electrical & Computer Engineering, The University of Texas at Austin, USA
- 1995, M.E., Electronic & Communication Engineering, South China University of Technology, China
- 1993, B.E., Electronic & Information Engineering (with minor in Applied Mathematics), Huazhong University of Science & Technology, China

Significant Awards and Recognitions

- 2027-2033, **Canada Research Chair** (Tier 1 renewal) in Multimedia Quality-of-Experience, NSERC
- 2026, **Highly Cited Researcher**, Clarivate
- 2024, **Outstanding Performance Award**, Faculty of Engineering, University of Waterloo
- 2021, **Technology Emmy Award**, National Academy of Television Arts and Sciences, as Chief Scientist of award recipient: SSIMWAVE Inc.
- 2021, **Excellence in Graduate Supervision**, Faculty of Engineering, University of Waterloo
- 2019-2026, **Canada Research Chair** (Tier 1) in Multimedia Quality-of-Experience, NSERC
- 2018, **Fellow of Royal Society of Canada - Academy of Science**, Royal Society of Canada
- 2018, **University Research Chair**, University of Waterloo
- 2017, **Research Excellence Award**, Faculty of Engineering, University of Waterloo
- 2017, **IEEE Signal Processing Society Sustained Impact Paper Award**, IEEE Signal Processing Society
- 2016, **Fellow of Canadian Academy of Engineering**, Canadian Academy of Engineering
- 2015, **Primetime Engineering Emmy Award**, Academy of Television Arts and Sciences
- 2015, **Member of College of New Scholars, Artists & Scientists**, Royal Society of Canada
- 2014, **E.W.R. Steacie Memorial Fellowship**, NSERC
- 2014, **Fellow of IEEE**, Institute of Electrical and Electronic Engineers
- 2014, **Distinguished Performance Award**, Faculty of Engineering, University of Waterloo
- 2013, **IEEE Signal Processing Magazine Best Paper Award**, IEEE Signal Processing Society
- 2012, **ECE Research Award**, Dept. of Electrical & Computer Engineering, University of Waterloo
- 2009, **IEEE Signal Processing Society Best Paper Award**, IEEE Signal Processing Society

- 2009, **Early Researcher Award**, Ontario Ministry of Research and Innovation

Technical Society Membership and Journal Editorial Positions

- 2022 – 2026, Senior Editor, *IEEE Journal of Selected Topics in Signal Processing*
- 2019 – 2022, Member, *IEEE Signal Processing Society Image, Video and Multidimensional Signal Processing Technical Committee*
- 2015 – 2019, Senior Area Editor, *IEEE Transactions on Image Processing*
- 2016 – 2018, Associate Editor, *IEEE Transactions on Circuits and Systems for Video Technology*
- 2013 – 2015, Member, *IEEE Signal Processing Society Multimedia Signal Processing Technical Committee*
- 2009 – 2014, Associate Editor, *IEEE Transactions on Image Processing*
- 2006 – 2020, Associate Editor, *Pattern Recognition*
- 2006 – 2010, Associate Editor, *IEEE Signal Processing Letters*

Invited Speech, Conference Organization and Reviews

- Keynote/plenary/invited speeches of **100+** times in North America, Asia, Australia and Europe
- General Co-Chair, TPC Co-Chair, Workshop Co-Chair, Area Chair, Plenary Chair, Special Session Chair, Registration Chair, and TPC Member for **50+** international conferences
- Judge for MIT TR35 China
- Reviewer for **50+** international journals, **60+** international conferences, and **10+** funding agencies

Student Supervision

- 2005 – present, supervised **60+** highly qualified personnel (HQPs), including Master's students, PhD students, Postdoctoral Fellows, and Visiting PhD students
- 2007 – present, supervised **40+** undergraduate students on fourth-year design projects, undergraduate research assistants, undergraduate student research awards, and engineering design projects

Student Awards and Recognitions

- 2026, Postdoctoral Fellow E. Rezk won *Medical Image Understanding and Analysis (MIUA)* conference **Best Poster Presentation Award**
- 2026, PhD student M. Eisapour won **Queen Elizabeth II Graduate Scholarship in Science & Technology (QEII-GSST)** and **President's Graduate Scholarship**
- 2026, PhD/Postdoc graduate S. Athar won McMaster **Student Union Teaching Award**
- 2026, Postdoctoral Fellow E. Rezk featured in **Women in MICCAI (WiA) Research Spotlight – Fairness in Medical AI**
- 2025, PhD student J. Zhou won **Best Imaging Paper Award** in Computer Vision and Intelligent Systems (CVIS) conference
- 2025, Postdoctoral Fellow E. Rezk won **IEEE BHI 2025 NSF-EMBS-Google Sponsored Young Professional NextGen Scholar Recognition**
- 2025, PhD student P. Yang won **S.P. Pasupalak Scholarship in Robotics and AI**
- 2025, PhD student A. Shafiee Sarvestani won **Ontario Graduate Fellowship**
- 2025, PhD student A. Shafiee Sarvestani won UW Faculty of Engineering **Award for Academic and Research Excellence**
- 2025, PhD/Postdoc graduate S. Athar won McMaster Student Union **Excellence in Teaching Award**
- 2024, Postdoctoral Fellow E. Rezk won prestigious **Alice Wilson Award** by Royal Society of Canada

- 2024, Postdoctoral Fellow W. Zhou selected as an honorable mention winner of **Rising Star in Visual Signal Processing and Communication** by IEEE CASS VSPC Technical Committee
- 2024, Postdoctoral Fellow E. Rezk won competitive **NSERC Postdoctoral Fellowship**
- 2024, MASc student S. Chowdhury won competitive **NSERC Canada Graduate Scholarship**
- 2023, PhD/Postdoc graduate S. Athar won **Faculty Appreciation Award** by McMaster University
- 2023, PhD student M. Eisapour won competitive **Ontario Graduate Scholarship** and **President's Graduate Scholarship**
- 2022, Undergraduate Research Assistant Raymond Zhou won **IEEE Signal Processing Society Travel Grant** to attend IEEE International Conference on Image Processing
- 2022, Postdoctoral Fellow W. Zhou won prestigious **ACM SIGMM Outstanding Dissertation Award**
- 2022, PhD student Z. Wang won competitive **Jon W. Mark Graduate Scholarship**
- 2021, PhD student M. Eisapor won **Savaas Chamberlain Endowment Award**
- 2021, Undergraduate Research Assistant Raymond Zhou won **President's Scholarship of Distinction Research Award**
- 2021, PhD student M. Eisapor won competitive **Ontario Graduate Scholarship** and **President's Graduate Scholarship**
- 2020, PhD student Z. Duanmu won competitive **Jon W. Mark Graduate Scholarship**
- 2020, MASc student M. Naseri won competitive **Vector Institute Scholarship in AI**
- 2020, MASc student C. Li won competitive **Huawei Graduate Scholarship**
- 2020, PhD student S. Athar won **University of Waterloo Teaching Assistantship Award**
- 2019, MASc student X. Guo won competitive **Vector Institute Scholarship in AI**
- 2018, PhD student Z. Duanmu won competitive **Huawei Graduate Scholarship in AI**
- 2018, PhD student R. Mohammadi Nasiri won **University of Waterloo Teaching Assistantship Award**
- 2018, PhD student W. Liu won **Student Travel Grant** to attend ACM Multimedia conference
- 2018, PhD student K. Ma, **Finalist of Governor General's Gold Medal**
- 2018, PhD student Z. Duanmu won **NSERC Alexander Graham Bell Canada Graduate Scholarship**
- 2017, PhD graduate A. Rehman won **Martin Walmsley Award for Entrepreneurship**, by Ontario Centres of Excellence
- 2017, MASc student Z. Li awarded **Huawei Graduate Scholarship**
- 2017, PhD student Z. Duanmu awarded **Carl Pollock Scholarship**
- 2017, PhD student S. Athar won **Sandford Fleming Foundation Teaching Assistantship Excellence Award**
- 2017, PhD student S. Athar won **University of Waterloo Teaching Assistantship Award**
- 2017, MASc student Z. Li awarded **Richard & Elizabeth Madter Scholarship**
- 2017, former Postdoc Fellow T. Zhao won prestigious **China Young Talent Award**
- 2016, PhD student S. Athar won **University of Waterloo Teaching Assistantship Award**
- 2015, PhD student K. Ma won **China Scholarship Council International Scholarship**
- 2015, Master's student Z. Duanmu won **NSERC Canada Graduate Scholarship**
- 2015, PhD student S. Athar won **University of Waterloo Teaching Assistantship Award**
- 2014, PhD student I. Kowalik-Urbaniak won **Honorable Mention Poster Award** at SPIE Medical Imaging Conference
- 2014, PhD student J. Wang won **IEEE Travel Grant** to IEEE International Conference on Multimedia and Expo
- 2013, PhD student K. Zeng won **Chinese Government Award of Outstanding Student Abroad**

- 2013, PhD student H. Yeganeh won **Best Speaker Award**, UW-ECE Grad Research Seminar
- 2012, MASc student M. Rostami won **Outstanding Achievement in Graduate Studies** (awarded to 3 Master's level students per year across all disciplines in University of Waterloo)
- 2012, PhD student K. Zeng won **Best Speaker Award**, UW-ECE Grad Research Seminar
- 2012, PhD student K. Zeng won **IEEE Signal Processing Society Travel Grant** to IEEE International Conference on Image Processing
- 2012, MASc student M. Rostami won **IEEE Signal Processing Society Travel Grant** to IEEE International Conference on Image Processing
- 2012, PhD student A. Rehman won **Best Speaker Award**, UW-ECE Grad Research Seminar
- 2011, PhD student I. Kowalik-Urbaniak won **Best Student Poster Award** at European Workshop on Visual Information Processing
- 2011, PhD student A. Rehman won **IEEE Signal Processing Society Travel Grants** to IEEE International Conference on Image Processing
- 2011, Supervised undergraduate Capstone team (N. McCallum et al.) won **AMD Award for Most Socially Responsible Design Project**
- 2010, PhD student H. Yeganeh received **NSERC Industrial Postgraduate Scholarship**
- 2010, PhD student K. Zeng won **IEEE Signal Processing Society Travel Grant** to IEEE International Conference on Image Processing
- 2010, PhD student A. Rehman won **IEEE Signal Processing Society Travel Grant** to IEEE International Conference on Image Processing
- 2008, PhD student Q. Li won **Best Student Paper Award** at IEEE International Conference on Image Processing

Teaching

- ECE207/ECE342: Signals and Systems (undergraduate level) – W2008, W2009, S2010(1), S2010(2), F2012(1), F2012(2), F2013(2)
- ECE318: Communication Systems (undergraduate level) – F2011, W2014
- ECE313/ECE413: Digital Signal Processing (undergraduate level) – S2016, S2018, S2020, F2022, F2023, F2024, F2025
- ECE417: Image Processing (undergraduate level) – W2014, W2022, W2023, W2024, W2025
- ECE613/ECE710-T13: Image Processing and Visual Communication (graduate level) – W2008, F2009, F2012, F2013, F2016, F2017, F2018, F2019, F2020, W2022, W2023, W2024, W2025
- ECE710-T16: Digital Signal Processing (undergraduate level) – W2009, F2010, S2016, F2021
- ECE200A/ECE300B: Electrical and Computer Engineering Practice (undergraduate level) – F2011, F2013
- ECE499: Engineering Project (undergraduate level) – from F2009 to W2014
- EE4328: Introduction to Digital Image Processing (Univ. of Texas Arlington, undergraduate level), F2006
- EE5350: Digital Signal Processing (Univ. of Texas Arlington, graduate level), F2005
- EE5359: Advanced Image Processing and Visual Communications (Univ. of Texas Arlington, undergraduate level) – S2006, S2007

Funded Research Projects

- 2027 – 2033, Multimedia quality-of-experience, Canada Research Chair Program, NSERC/University of Waterloo, C$1,750,000, Role: PI

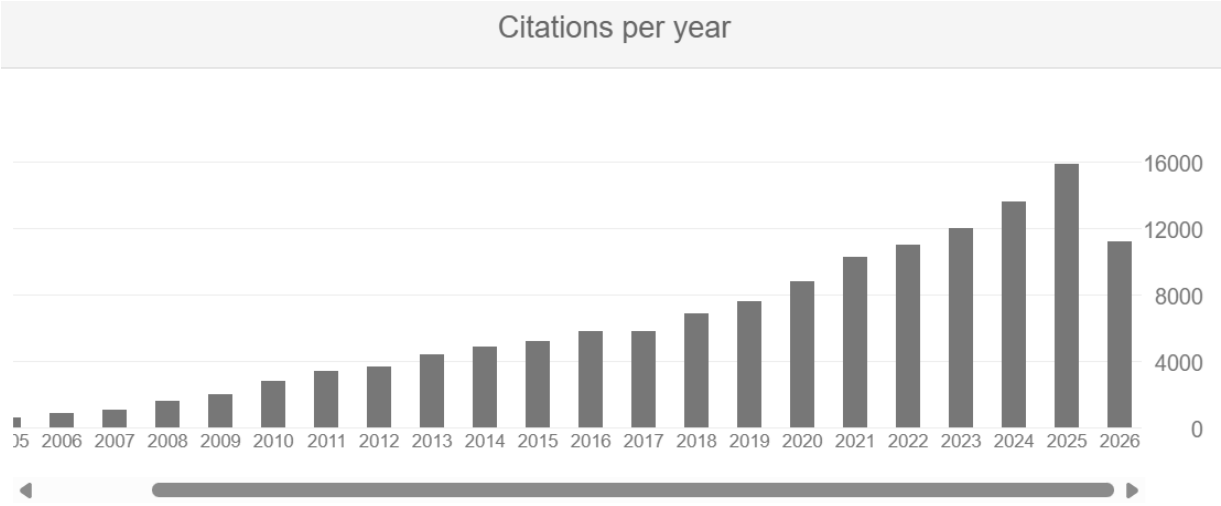
- 2026 – 2029, Advancing AI-driven methodologies for visual content creation and quality enhancement, NSERC Alliance Accelerate, C$252,000, Role: PI
- 2025 – 2028, Advancing deep learning-based camera image signal processing pipeline, NSERC Alliance Accelerate, C$247,500, Role: PI
- 2024 – 2029, Perceptual multimedia quality-of-experience understanding, enhancement and enrichment empowered by generative artificial intelligence methodologies, NSERC Discovery Grant, C$91,000/year for 5 years, Role: PI
- 2022 – 2026, Transforming pathology using artificial intelligence to improve patient outcome and hospital efficiency, ORF Research Excellence Round 10, C$1,721,681, Role: co-PI (PI: K. Plataniotis; co-PIs: A. Moshovos, C. Rowsell, P. Diamandis)
- 2023 – 2025, Grain-aware video quality assessment and encoding optimization in streaming media applications, MITACS Accelerate program, C$180,000, Role: PI
- 2019 – 2026, Multimedia quality-of-experience, Canada Research Chair Program, NSERC/University of Waterloo, C$1,890,000, Role: PI
- 2018 – 2024, End-to-end perceptual quality-of-experience measurement and optimization to reshape modern video communication systems, NSERC Discovery Program, C$456,000, Role: PI
- 2020 – 2022, Quality modeling, coding and streaming of 360 degree video, Xperi/Rovi Inc. University Partnership Grant, C$364,000, Role: PI
- 2019 – 2022, Video quality-of-experience assessment based on advanced machine learning technologies, MITACS Accelerate program, C$120,000, Role: PI
- 2017 – 2020, Visual quality-of-experience testing across dynamic range, spatial resolution, frame rate, data rate, display device and viewing condition, SSIMWAVE Inc. Research Grant, C$200,000, Role: PI
- 2013 – 2018, Quality-of-visual-experience: perceptual assessment, compression and enhancement, NSERC Discovery Program, NSERC Discovery Accelerator Supplement, C$120,000, Role: PI
- 2013 – 2018, Quality-of-visual-experience: perceptual assessment, compression and enhancement, NSERC Discovery Program, C$305,000, Role: PI
- 2016 – 2017, Automated instantaneous video quality-of-experience measurement on consumer devices, NSERC Idea-to-Innovation Program, C$125,000, Role: PI
- 2014 – 2016, An Infrastructure for Quality-of-Visual-Experience Research, NSERC Research Tools and Instruments, C$149,993, Role: PI
- 2014 – 2016, Exploring the frontiers of quality-of-visual-experience research, NSERC Steacie Memorial Fellowship, C$250,000, Role: PI
- 2014 – 2016, Modeling human behavioral responses to distortions for visual quality assessment, Royal Society (UK) International Exchanges, £12,000 Role: Co-I (PI: H. Liu)
- 2013 – 2016, Advanced 3D video technologies: quality assessment, display, keying and communications, NSERC Strategic Project Grant Program, C$594,000, Role: PI
- 2015 – 2015, Prototype Perceptual Video Encoder Development Based on Structural Similarity Quality Criterion, NSERC Idea-to-Innovation Program, C$60,000, Role: PI
- 2014 – 2015, Prototype Product Development of Device-Adapted Video Quality-of-Experience Analyzer, NSERC Idea-to-Innovation Program, C$125,000, Role: PI
- 2013 – 2015, Video encoder and quality assessment, Qualcomm Inc. gift fund, US$30,000, Role: PI
- 2013 – 2013, Development of Perceptual Video Quality Analyze, OCE Voucher for Commercialization, C$30,000, Role: PI
- 2012 – 2013, Prototype Perceptual Video Encoder Development Based on Structural Similarity Quality Criterion, NSERC Idea-to-Innovation, C$124,000, Role: PI

- 2012 – 2012, Prototype Perceptual H.264/AVC Video Encoder Development, OCE C4 POP, C$40,000, Role: PI
- 2012 – 2013, Quality assessment and enhancement of compressed medical images, OCE Collaborative Research, C$108,000, Role: PI (co-PIs: E.R. Vrscay, D.A. Koff)
- 2011 – 2013, Objective quality assessment and its use in optimizing diagnostically lossless compression of medical images, NSERC CRD, C$83,082, Role: PI (co-PIs: E.R. Vrscay, D.A.Koff)
- 2011 – 2013, Medical image compression and quality assessment, Agfa Healthcare Inc., C$54,000, Role: PI (co-PIs: E.R. Vrscay, D.A.Koff)
- 2011 – 2011, Efficient algorithm for all-hardware motion prediction in H.264/AVC video encoding, NSERC Engage, C$25,000, Role: PI
- 2009 – 2014, Enhancing the perceptual experience in network visual communications, ERA Award, C$190,000, Role: PI
- 2008 – 2013, Perceptual image processing, NSERC Discovery, C$90,000, Role: PI

Publications

- **290+** publications with **140,000+** citations by Google Scholar statistics

Cited by		VIEW ALL
	All	Since 2021
Citations	142267	74237
h-index	80	58
i10-index	216	149



Journal Publications

[1] X. Xu, J. Yan, S. Tang and Z. Wang, “Optimizing Few-Shot Novel View Synthesis with Human-Perceptual Preferences,” *IEEE Transactions on Visualization and Computer Graphics*, in press, 2026.

[2] W. Yin, J. Chi, H. Su, Q. Liu, H. Yuan and Z. Wang, “No-reference Bitstream-layer Model for Perceptual Quality Assessment of Compressed Dynamic 3D Point Clouds with Packet Loss,” *IEEE Transactions on Broadcasting*, in press, 2026.

[3] F. Hou, H. Su, Q. Liu, H. Yuan and Z. Wang, “Perceptual Geometry Distortion Assessment of Compressed 3D Meshes,” *IEEE Transactions on Image Processing*, vol. 35, pp. 7363-7374, Jul. 2026.

[4] Y. Liu, J. Li, Y. Jiang, D. Zeng and Z. Wang, “Attention Redundancy Reduction for Image Super-Resolution,” *IEEE Transactions on Image Processing*, vol. 35, pp. 3594-3608, Mar. 2026.

[5] K. Zhang, W. Chen, T. Zhao and Z. Wang, “Structural Similarity in Deep Features: Image Quality Assessment Robust to Geometrically Disparate Reference,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 48, no. 3, pp. 2581-2595, Mar. 2026.

[6] J. Long, H. Su, Q. Liu, H. Yuan, W. Gao, J. Song and Z. Wang, “Perceptual Quality Assessment of Trisoup-Lifting Encoded 3D Point Clouds,” *IEEE Transactions on Visualization and Computer Graphics*, vol. 32, no. 2, pp. 2034-2048, Feb. 2026.

[7] D. Duan, H. Su, Q. Liu, H. Yuan, W. Gao, J. Song and Z. Wang, “DQP-PCQA: Deep Quantization Parameters Bring New Insight to Point Cloud Quality Assessment,” *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 35, no. 12, pp 12251–12264, Jul. 2025.

[8] X. Sui, H. Zhu, X. Liu, Y. Fang, S. Wang and Z. Wang, "Perceptual Quality Assessment of 360° Images Based on Generative Scanpath Representation," *IEEE Transactions on Image Processing*, vol. 34, pp. 4485-4499, Jul. 2025.

[9] J. Yan, Z. Tan, Y. Fang, J. Chen, W. Jiang and Z. Wang, “Omnidirectional Image Quality Captioning: A Large-scale Database and A New Model,” *IEEE Transactions on Image Processing*, vol. 34, pp. 1326-1339, Feb. 2025.

[10] W. Sang, H. Su, Q. Liu, H. Yuan, and Z. Wang, “Energy-adaptive Bitstream-layer Model for Perceptual Quality Assessment of V-PCC Encoded 3D Point Clouds,” *IEEE Transactions on Image Processing*, vol. 34, pp. 1285 – 1296, Feb. 2025.

[11] W. Zhou and Z. Wang, “Perceptual Depth Quality Assessment of Stereoscopic Omnidirectional Images”, *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 34, no. 12, pp. 13452-13462, Aug. 2024.

[12] X. Liu, J. Yan, Z. Wan, Y. Fang and Z. Wang, “A quality-of-experience database for omnidirectional video streaming,” *IEEE Journal of Selected Topics in Signal Processing*, vol. 17, no. 5, pp. 949-963, Sept. 2023.

[13] H. Su, Q. Liu, Y. Liu, H. Yuan, H. Yang, Z. Pan and Z. Wang, “Bitstream-based Perceptual Quality Assessment of Compressed 3D Point Clouds,” *IEEE Transactions on Image Processing*, vol. 32, pp. 1815-1828, 2023.

[14] Q. Liu, H. Su, Z. Duanmu, W. Liu and Z. Wang, “Perceptual quality assessment of colored 3D point clouds,” *IEEE Transactions on Visualization and Computer Graphics*, vol. 29, no. 8, pp. 3642-3655, Aug. 2023.

[15] Z. Duanmu, W. Liu, D. Chen, Z. Li, Z. Wang, Y. Wang, and W. Gao, "A Bayesian quality-of-experience model for adaptive streaming videos," *ACM Transactions on Multimedia Computing Communications and Applications*, vol. 18, Issue 3s, pp. 1-24, Feb. 2023.

[16] S. Athar and Z. Wang, “Degraded reference image quality assessment,” *IEEE Transactions on Image Processing*, vol. 32, pp. 822-837, Jan. 2023.

[17] Y. Wang, Z. Wang, Q. Hu, Y. Zhou and H. Su, "Hierarchical semantic risk minimization for large-scale classification," *IEEE Transactions on Cybernetics*, vol. 52, no. 9, pp. 9546-9558, Sep. 2022.

[18] H. Yeganeh, K. Zeng and Z. Wang, “Understanding banding – Perceptual modeling and machine learning approaches for banding detection,” *SMPTE Motion Imaging Journal*, vol. 131, no. 3, pp. 35-41, April. 2022.

[19] Z. Duanmu, W. Liu, Z. Wang and Z. Wang, "Quantifying visual image quality: A Bayesian view," *Annual Review of Vision Science*, invited paper, Sep. 2021.

[20] T. Zhao, Y. Lin, Y. Xu, W. Chen and Z. Wang, “Learning-based quality assessment for image super-resolution,” *IEEE Transactions on Multimedia*, vol. 24, pp. 3570-3581, 2021.

[21] Z. Duanmu, W. Liu, Z. Li and Z. Wang, "Modeling generalized rate-distortion functions," *IEEE Transactions on Image Processing*, vol. 29, pp. 7331-7344, 2020.

[22] Z. Duanmu, W. Liu, Z. Li, K. Ma and Z. Wang, "Characterizing generated rate-distortion performance of video coding: An eigen analysis approach," *IEEE Transactions on Image Processing*, vol. 29, pp. 6180-6193, 2020.

[23] K. Ma, Z. Duanmu, H. Zhu, Y. Fang and Z. Wang, "Deep guided learning for fast multi-exposure image fusion," *IEEE Transactions on Image Processing*, vol. 29, pp. 2808-2819, 2020.

[24] Z. Wang, H. Yeganeh, K. Zeng and J. Wang, "Diagnosing visual quality impairments in high-dynamic-range/wide-color-gamut videos," *Journal of Digital Video*, vol. 5, no. 1, pp. 74-83, Dec. 2020.

[25] K. Ma, Z. Duanmu, Z. Wang, Q. Wu, W. Liu, H. Yong, H. Li and L. Zhang, "Group maximum differentiation competition: model comparison with few samples," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 42, no. 4, pp. 851-864, Apr. 2020.

[26] L. Lin, S. Yu, L. Zhou, W. Chen, T. Zhao and Z. Wang, "PEA265: Perceptual assessment of video compression artifacts," *IEEE Transactions on Circuits and Systems for Video Technology*, early publication online Mar. 2020.

[27] W. Zhang, K. Ma, J. Yan, D. Deng, and Z. Wang, "Blind image quality assessment using a deep bilinear convolutional neural network," *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 30, no. 1, pp. 36-47, Jan. 2020.

[28] Z. Wang, A. Rehman and K. Zeng, "Encoding intelligence for optimal viewer experience in live video distribution," *Journal of Digital Video*, vol. 4, no. 1, pp. 52-57, Dec. 2019.

[29] Y. Fang, H. Zhu, Z. Wang and S. Li, "Perceptual evaluation of multi-exposure image fusion of dynamic scenes," *IEEE Transactions on Image Processing*, vol. 29, pp. 1127-1138, Sept. 2019.

[30] S. Athar and Z. Wang, "A comprehensive performance evaluation of image quality assessment algorithms," *IEEE Access*, vol. 7, pp. 140030-140070, Sept. 2019.

[31] Z. Wang and A. Rehman, "Begin with the end in mind: a unified end-to-end quality-of-experience monitoring, optimization and management framework," *SMPTE Motion Imaging Journal*, Society of Motion Picture Technology and Engineering, vol. 128, no. 2, pp. 1-8, Mar. 2019.

[32] Z. Duanmu, K. Ma, and Z. Wang, “Quality-of-experience for adaptive streaming video: an expectation confirmation theory motivated approach," *IEEE Transactions on Image Processing*, vol. 27, no. 12, pp. 6135-6146, Dec. 2018

[33] K. Ma, H. Fu, T. Liu, Z. Wang, and D. Tao, “Deep blur mapping: exploiting high-level semantics by deep neural networks," *IEEE Transactions on Image Processing*, vol. 27, no. 10, pp. 5155-5166, Oct. 2018.

[34] Z. Duanmu, A. Rehman and Z. Wang, “A quality-of-experience database for adaptive video streaming,” *IEEE Transactions on Broadcasting*, vol. 64, no. 2, pp. 474-487, Jun. 2018.

[35] K. Ma, W. Liu, K. Zhang, Z. Duanmu, Z. Wang, and W. Zuo, “End-to-end blind image quality assessment using deep neural networks,” *IEEE Transactions on Image Processing*, vol. 27, no. 3, pp. 1202-1213, Mar. 2018.

[36] K. Ma, Z. Duanmu, H. Yeganeh, and Z. Wang, “Multi-exposure image fusion by optimizing a structural similarity index,” *IEEE Transactions on Computational Imaging*, vol. 4, no. 1, pp. 60-72, Mar. 2018.

[37] S. Wang, K. Gu, K. Zeng, Z. Wang and W. Lin, “Objective quality assessment and perceptual compression of screen content images,” feature article in *IEEE Computer Graphics and Applications*, vol. 38, no. 1, pp. 47-58, Jan.-Feb. 2018.

[38] X. Min, K. Ma, K. Gu, G. Zhai, Z. Wang and W. Lin, “Unified blind quality assessment of compressed natural, graphic and screen content images,” *IEEE Transactions on Image Processing*, vol. 26, no. 11, pp. 5462-5474, Nov. 2017.

[39] Q. Wu, H. Li, Z. Wang, F. Meng, B. Luo, W. Li, and K. N. Ngan, “Blind image quality assessment based on rank-order regularized regression,” *IEEE Transactions on Multimedia*, vol. 19, no. 11, pp. 2490-2504, Nov. 2017.

[40] S. Wang, A. Rehman, K. Zeng, J. Wang and Z. Wang, “SSIM-motivated two-pass VBR coding for high efficiency video coding,” *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 27, no. 10, pp. 2189-2203, Oct. 2017.

[41] K. Ma, W. Liu, T. Liu, Z. Wang, and D. Tao, "dipIQ: blind image quality assessment by learning-to-rank discriminable image pairs," *IEEE Transactions on Image Processing*, vol. 26, no. 8, pp. 3951-3964, Aug. 2017.

[42] K. Ma, H. Li, H. Yong, Z. Wang, D. Meng, L. Zhang, "Robust multi-exposure image fusion: A structural patch decomposition approach," *IEEE Transactions on Image Processing*, vol. 26, no. 5, pp. 2519-2532, May 2017.

[43] J. Wang, S. Wang, K. Ma and Z. Wang, “Perceptual depth quality in distorted stereoscopic images,” *IEEE Transactions on Image Processing*, vol. 26, no. 3, pp. 1202-1215, Mar. 2017.

[44] J. Wang, S. Wang and Z. Wang, “Asymmetrically compressed stereoscopic 3D videos: quality assessment and rate-distortion performance evaluation,” *IEEE Transactions on Image Processing*, vol. 26, no. 3, pp. 1330-1343, Mar. 2017.

[45] K. Ma, Z. Duanmu, Q. Wu, Z. Wang, H. Yong, H. Li, and L. Zhang, “Waterloo exploration database: new challenges for image quality assessment models,” *IEEE Transactions on Image Processing*, vol. 26, no. 2, pp. 1004-1016, Feb. 2017.

[46] Z. Duanmu, K. Zeng, K. Ma, A. Rehman, and Z. Wang “A quality-of-experience index for streaming video,” *IEEE Journal of Selected Topics in Signal Processing*, vol. 11, no. 1, pp. 154-166, Feb. 2017.

[47] T. Zhao, Z. Wang and C.-W. Chen, “Adaptive quantization parameter cascading in HEVC hierarchical coding,” *IEEE Transactions on Image Processing*, vol. 25, no. 7, pp. 2997-3009, July 2016.

[48] W. Zhang, A. Borji, Z. Wang, P. Le Callet, and H. Liu, “The application of visual saliency models in objective image quality assessment: A statistical evaluation,” *IEEE Transactions on Neural Networks and Learning Systems*, vol. 27, no. 6, pp. 1266-1278, June 2016.

[49] F. Manji, J. Wang, G. Norman, Z. Wang and D. Koff, "Comparison of dual energy subtraction chest radiography and traditional chest X-rays in the detection of pulmonary nodules", *Quantitative Image in Medicine and Surgery*, vol. 6, no. 1, pp. 1-5, Feb. 2016.

[50] K. Ma, T. Zhao, K. Zeng and Z. Wang, “Objective quality assessment for color-to-gray image conversion,” *IEEE Transactions on Image Processing*, vol. 24, no. 12, pp. 4673 – 4685, Dec. 2015.

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