

Selected Papers of Zhenxing Qian

1) Multimedia Forensics

- Q. Ying, H. Zhou, **Z. Qian***, S. Li, and X. Zhang, Learning to Immunize Images for Tamper Localization and Self-Recovery, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2023, accepted.
- X. Hu, Q. Ying, **Z. Qian***, S. Li, and X. Zhang, DRAW: Defending Camera-shooted RAW against Image Manipulation, *International Conference on Computer Vision (ICCV 2023)*, Paris, France, Oct. 2-6, 2023
- Q. Ying, X. Hu, Y. Zhou, **Z. Qian***, D. Zeng, and S. Ge, Bootstrapping Multi-view Representations for Fake News Detection, *Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI-23)*, 2023
- Z. Yuan, Z. You, S. Li, **Z. Qian***, X. Zhang, A. Kot, On Generating Identifiable Virtual Faces, *MM '22: Proceedings of the 29th ACM International Conference on Multimedia*, 2022, accepted.
- J. Chen, X. Liao, W. Wang, **Z. Qian**, Z. Qin, and Y. Wang, SNIS: A Signal Noise Separation-based Network for Post-processed Image Forgery Detection, *IEEE Transactions on Circuits and Systems for Video Technology*, 2022
- Y. Zhou, Y. Yang, Q. Ying, **Z. Qian***, and X. Zhang, Multi-modal Fake News Detection on Social Media via Multi-grained Information Fusion, *ACM International Conference on Multimedia Retrieval (ICMR 2023)*, Thessaloniki, Greece, June 12-15, 2023.
- Q. Ying, H. Zhou, X. Hu, **Z. Qian***, S. Li, and X. Zhang, Image Protection for Robust Cropping Localization and Recovery, *IEEE International Conference on Multimedia and Expo (ICME)*, 2023
- Y. Zhou, Q. Ying, Y. Yang, **Z. Qian***, X. Zhang, Multimodal Fake News Detection via CLIP-Guided Learning, *IEEE International Conference on Multimedia and Expo (ICME)*, 2023
- B. Zhang, S. Li, G. Feng, **Z. Qian**, and X. Zhang, Patch Diffusion: A General Module for Face Manipulation Detection, *the Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI-22)*, Vancouver, Canada, Feb. 22, 2022
- S. Li, X. Zhu, G. Feng, X. Zhang, **Z. Qian**, Diffusing the liveness cues for face anti-spoofing, *MM '21: Proceedings of the 29th ACM International Conference on Multimedia*, October 2021, pp 1636-1644
- **Z. Qian**, and X. Zhang, Improved anti-forensics of JPEG compression, *Journal of Systems & Software*, 91: 100-108, 2014.

2) Neural Network Security

- Y. Zeng, J. Tan, Z. You, **Z. Qian***, X. Zhang, Watermarks for Generative Adversarial Network Based on Steganographic Invisible Backdoor, *IEEE International Conference on Multimedia and Expo (ICME)*, 2023

- Y. Xue, Y. Zhu, Z. Zhu, S. Li, **Z. Qian***, and X. Zhang, Removing Watermarks for Image Processing Networks Via Referenced Subspace Attention, *The Computer Journal*, 2022.
- G. Li, S. Li, M. Li, X. Zhang, and **Z. Qian**, Steganography of Steganographic Networks, *Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI-23)*, 2023
- N. Zhong, **Z. Qian***, and X. Zhang, Imperceptible Backdoor Attack: From Input Space to Feature Representation, *the 31st International Joint Conference on Artificial Intelligence (IJCAI 22)*, 2022.
- G. Liu, S. Li, **Z. Qian***, and X. Zhang, HF-Defend: Defending Against Adversarial Examples Based on Halftoning, *IEEE 24th International Workshop on Multimedia Signal Processing*, September 26-28, 2022, Shanghai, China.
- L. Feng, S. Li, **Z. Qian***, X. Zhang, Robust Backdoor Injection with the Capability of Resisting Network Transfer, *Information Science*, 2022.
- Z. Zhu, H. Zhou, S. Xing, **Z. Qian***, S. Li, and X. Zhang, Perceptual Hash of Neural Networks, *Symmetry*, 2022.
- K. Chen, X. Zeng, Q. Ying, S. Li, **Z. Qian***, and X. Zhang, Invertible Image Dataset Protection, *IEEE International Conference on Multimedia and Expo (ICME) 2022*, Taipei, Taiwan, 18-22 July, 2022
- L. Feng, S. Li, **Z. Qian***, and X. Zhang, Unlabeled Backdoor Poisoning in Semi-Supervised Learning, *IEEE International Conference on Multimedia and Expo (ICME) 2022*, Taipei, Taiwan, 18-22 July, 2022
- G. Li, S. Li, **Z. Qian**, and X. Zhang, Encryption Resistant Deep Neural Network Watermarking, *2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2022)*, 22-27 May 2022, Singapore, accepted.
- M. Li, N. Zhong, X. Zhang, **Z. Qian***, and Sheng Li, Object-Oriented Backdoor Attack Against Image Captioning, *2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2022)*, 22-27 May 2022, Singapore.
- L. Feng, S. Li, **Z. Qian***, and X. Zhang, Stealthy Backdoor Attack with Adversarial Training, *2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2022)*, 22-27 May 2022, Singapore.
- N. Zhong, **Z. Qian***, and X. Zhang, Deep Neural Network Retrieval, *MM '21: Proceedings of the 29th ACM International Conference on Multimedia*, October 2021, pp 3455-3463
- R. Zhu, P. Wei, S. Li, Z. Yin, X. Zhang and **Z. Qian**, Fragile Neural Network Watermarking with Trigger Image Set, *International Conference on Knowledge Science, Engineering and Management (KSEM 2021)*, Tokyo, Japan, 2021
- N. Zhong, **Z. Qian***, and X. Zhang, Undetectable Adversarial Examples based on Microscopical Regularization, *IEEE International Conference on Multimedia and Expo (ICME) 2021*, Shenzhen, China, 5-9 July 2021
- M. Shi, S. Li, Z. Yin, X. Zhang, and **Z. Qian**, On Generating JPEG Adversarial Images, *IEEE International Conference on Multimedia and Expo (ICME) 2021*, Shenzhen, China, 5-9 July 2021

- G. Feng, Y. Lan, X. Zhang, and **Z. Qian**. Dynamic adjustment of hidden node parameters for extreme learning machine, *IEEE Transactions on Cybernetics*, 45(2): 279-288, 2015.
- G. Feng, **Z. Qian**, and X. Zhang, Evolutionary selection extreme learning machine optimization for regression, *Soft Computing*, 16: 1485-1491, 2012.

3) Steganography

- W. Peng, T. Wang, **Z. Qian***, S. Li, and X. Zhang, Cross-Modal Text Steganography Against Synonym Substitution-Based Text attack, *IEEE Signal Processing Letters*, 30: 299-303, 2023
- P. Wei, Z. Zhu, G. Luo, **Z. Qian***, and X. Zhang, Breaking Robust Data Hiding in Online Social Networks, *IEEE Signal Processing Letters*, accepted.
- Z. Zhu, P. Wei, **Z. Qian***, S. Li, and X. Zhang, Image Sanitization in Online Social Networks: A General Framework for Breaking Robust Information Hiding, *IEEE Transactions on Circuits and Systems for Video Technology*, 2022.
- H. Tian, Y. Qiu, **Z. Qian**, H. Li, and H. Quan, STFF-SM: Steganalysis Model Based on Spatial and Temporal Feature Fusion for Speech Streams, *IEEE Transactions on Audio, Speech and Language Processing*, 31, 277-289, 2022.
- H. Chen, L. Song, **Z. Qian**, X. Zhang, K. Ma, Hiding Images in Deep Probabilistic Models, *Thirty-Sixth Conference on Neural Information Processing Systems (NeurIPS 2022)*, New Orleans, Louisiana, United States of America, Nov. 28, 2022.
- Z. You, Y. Qichao, S. Li, **Z. Qian***, X. Zhang, Image Generation Network for Covert Transmission in Online Social Network, *MM '22: Proceedings of the 29th ACM International Conference on Multimedia*, 2022
- Y. Guo, **Z. Qian***, and X. Zhang, Hiding Function with Neural Networks, *IEEE 24th International Workshop on Multimedia Signal Processing*, September 26-28, 2022, Shanghai, China.
- Q. Ying, H. Zhou, X. Zeng, H. Xu, **Z. Qian***, and X. Zhang, Hiding Images into Images with Real-world Robustness, *IEEE ICIP 2022*
- P. Wei, S. Li, X. Zhang, G. Luo, **Z. Qian***, Q. Zhou, Generative Steganography Network, *MM '22: Proceedings of the 29th ACM International Conference on Multimedia*, 2022
- P. Wei, G. Luo, Q. Song, X. Zhang, **Z. Qian***, and S. Li, Generative Steganographic Flow, *IEEE International Conference on Multimedia and Expo (ICME) 2022*, Taipei, Taiwan, 18-22 July, 2022
- Z. Wang, G. Feng, **Z. Qian**, X. Zhang, JPEG Steganography with Content Similarity Evaluation, *IEEE Transactions on Cybernetics*, accepted.
- G. Luo, P. Wei, S. Zhu, X. Zhang, **Z. Qian***, and Sheng Li, Image Steganalysis with Convolutional Vision Transformer, *2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2022)*, 22-27 May 2022, Singapore, accepted.

- N. Zhong, **Z. Qian***, Z. Wang, X. Zhang, and X. Li, Batch Steganography via Generative Network, *IEEE Transactions on Circuits and Systems for Video Technology*, 31(1): 88-97, 2021.
- Z. Zhu, S. Li, **Z. Qian***, and X. Zhang, Destroying Robust Steganography in Online Social Networks, *Information Sciences*, 581: 605-619, 2021
- G. Feng, X. Zhang, Y. Ren, **Z. Qian**, and S. Li, Diversity-based Cascade Filters for JPEG Steganalysis, *IEEE Transactions on Circuits and Systems for Video Technology*, 30(2): 376-386, 2020
- Y. Ren, X. Zhang, G. Feng, **Z. Qian**, and F. Li, How to Extract Image Features based on Co-occurrence Matrix Securely and Efficiently in Cloud Computing, *IEEE Transactions on Cloud Computing*, 8(1): 207-219, 2020.
- Z. Wang, X. Zhang, and **Z. Qian**, Practical Cover Selection for Steganography, *IEEE Signal Processing Letters*, 27, 71-75, 2020
- T. Qiao, X. Luo, T. Wu, M. Xu, and **Z. Qian**, Adaptive Steganalysis Based on Statistical Model of Quantized DCT Coefficients for JPEG Images, *IEEE Transactions on Dependable and Secure Computing*, 18(6): 2736-2751, 2021
- Z. Wang, **Z. Qian***, X. Zhang, M. Yang, and D. Ye, On Improving Distortion Functions for JPEG Steganography, *IEEE Access*, 6(1): 74917-74930, 2018.
- L. Shi, Z. Wang, **Z. Qian***, and X. Zhang, Distortion Function for Steganography in Texture Synthesized Images, *IIH-MSP*, Sendai, Japan, 2018
- **Z. Qian**, H. Zhou, W. Zhang, and X. Zhang, Robust steganography using texture synthesis, *IIH-MSP*, Kaohsiung, Taiwan, 2016.

4) Reversible Data Hiding

- Y. Qiu, Q. Ying, Y. Yang, H. Zeng, S. Li, and **Z. Qian***, High-Capacity Framework for Reversible Data Hiding in Encrypted Image Using Pixel Prediction and Entropy Encoding, *IEEE Transactions on Circuits and Systems for Video Technology*, 2022
- Y. Qiu, **Z. Qian***, H. He, H. Tian, and X. Zhang, Optimized Lossless Data Hiding in JPEG Bitstream and Relay Transfer Based Extension, *IEEE Transactions on Circuits and Systems for Video Technology*, 31(4): 1380-1394, 2021
- Y. Qiu, **Z. Qian***, H. Zeng, X. Lin, and X. Zhang, Reversible Data Hiding in Encrypted Images Using Adaptive Reversible Integer Transformation, *Signal Processing*, 167, 107288, 1-10, 2020.
- **Z. Qian**, H. Xu, X. Luo, and X. Zhang, New framework of reversible data hiding in encrypted JPEG bitstreams, *IEEE Transactions on Circuits and Systems for Video Technology*, 29(2): 351-362, 2019.
- H. Ge, Y. Chen, **Z. Qian**, and J. Wang, A High Capacity Multi-Level Approach for Reversible Data Hiding in Encrypted Images, *IEEE Transactions on Circuits and Systems for Video Technology*, 29(8), 2285-2295, 2019.
- Y. Qiu, H. Wang, Z. Wang, **Z. Qian***, G. Feng, and X. Zhang, Reversible Contrast Mapping based Reversible Data Hiding in Encrypted Images, *IEEE*

International Workshop on Information Forensics and Security (WIFS 2018), Hong Kong, Dec. 11-13, 2018.

- Y. Puyang, Z. Yin, and **Z. Qian***, Reversible Data Hiding in Encrypted Images with Two-MSB Prediction, *IEEE International Workshop on Information Forensics and Security (WIFS 2018)*, Hong Kong, Dec. 11-13, 2018.
- **Z. Qian**, H. Zhou, X. Zhang, and W. Zhang, Separable reversible data hiding in encrypted JPEG bitstreams, *IEEE Transactions on Dependable and Secure Computing*, 15(6): 1055-1067, 2018.
- Y. Qiu, H. He, **Z. Qian***, S. Li, and X. Zhang, Lossless Data Hiding in JPEG Bitstream Using Alternative Embedding, *Journal of Visual Communication and Image Representation*, 52: 86-91, 2018.
- **Z. Qian**, and X. Zhang, Reversible data hiding in encrypted image with distributed source encoding, *IEEE Transactions on Circuits and Systems for Video Technology*, 26(4): 636-646, 2016.
- **Z. Qian**, X. Zhang, and G. Feng, Reversible data hiding in encrypted images based on progressive recovery, *IEEE Signal Processing Letters*, 23(11): 1672-1676, 2016.
- **Z. Qian**, S. Dai, F. Jiang, and X. Zhang, Improved joint reversible data hiding in encrypted images, *Journal of Visual Communication and Image Representation*, 40: 732-738, 2016.
- Y. Qiu, **Z. Qian***, and L. Yu, Adaptive Reversible data hiding by extending the generalized integer transformation, *IEEE Signal Processing Letters*, 23(1): 130-134, 2016.
- **Z. Qian**, X. Zhang, and S. Wang, Reversible data hiding in encrypted JPEG bitstream, *IEEE Transactions on Multimedia*, 16(5): 1486-1491, 2014.
- **Z. Qian**, and X. Zhang, Lossless data hiding in JPEG bitstream, *Journal of Systems and Software*, 85(2): 309-313, 2012.

5) Digital Watermarking

- Y. Zhou, Q. Ying, Y. Wang, X. Zhang, **Z. Qian***, and X. Zhang, Robust Watermarking for Video Forgery Detection with Improved Imperceptibility and Robustness, *IEEE 24th MMSP*, September 26-28, 2022, Shanghai, China.
- Q. Ying, X. Hu, X. Zhang, **Z. Qian***, and X. Zhang, RWN: Robust Watermarking Network for Image Cropping Localization, *IEEE ICIP 2022*
- X. Li, C. Qin, Z. Wang, **Z. Qian**, and X. Zhang, Unified Performance Evaluation Method for Perceptual Image Hashing, *IEEE Transactions on Information Forensics & Security*, 17, 1404-1419, 21 March, 2022
- B. Deng, S. Li, **Z. Qian***, An SVD-Based Screen-Shooting Resilient Watermarking Scheme, *Multimedia Tools and Applications*, accepted.
- Q Ying, **Z. Qian***, H Zhou, X Zhang, H Xu, S Li, From Image to Imuge: Immunized Image Generation, *MM '21: Proceedings of the 29th ACM International Conference on Multimedia*, October 2021, pp 3565-3573
- W. Huan, S. Li, **Z. Qian***, and X. Zhang, Exploring Stable Coefficients on Joint Sub-bands for Robust Video Watermarking in DT CWT Domain, *IEEE*

- Transactions on Circuits and Systems for Video Technology*, 32(4): 1955-1965, April 2022.
- J. He, Q. Ying, **Z. Qian***, G. Feng, and X. Zhang, Semi-Structured Data Protection Scheme Based on Robust Watermarking, *EURASIP Journal on Image and Video Processing*, 12(2020): 1-10, 2020
 - Q. Ying, J. Lin, **Z. Qian***, H. Xu, and X. Zhang, Robust Digital Watermarking for Color Images in Combined DFT and DT-CWT Domains, *Mathematical Biosciences and Engineering*, 16(5): 4788-4801, 2019.
 - S. Li, X. Zhang, **Z. Qian**, G. Feng, and Y. Ren, Key based Artificial Fingerprint Generation for Privacy Protection, *IEEE Transactions on Dependable and Secure Computing*, 2018, DOI: 10.1109/TDSC.2018.2812192
 - **Z. Qian**, G. Feng, X. Zhang, and S. Wang, Image self-embedding with high-quality restoration capability, *Digital Signal Processing*, 21(2): 278-286, 2011.
 - X. Zhang, **Z. Qian**, Y. Ren, and G. Feng, Watermarking with flexible self-recovery quality based on compressive sensing and compositive reconstruction, *IEEE Transactions on Information Forensics & Security*, 6(4): 1223-1232, 2011.
 - X. Zhang, S. Wang, **Z. Qian**, and G. Feng, Reference sharing mechanism for watermark self-embedding, *IEEE Transactions on Image Processing*, 20(2): 485-495, 2011.
 - **Z. Qian**, and G. Feng, Inpainting assisted self recovery with decreased embedding data, *IEEE Signal Processing Letters*, 17(11): 929-932, 2010.
 - X. Zhang, S. Wang, **Z. Qian**, and G. Feng, Reversible fragile watermarking for locating tampered blocks in JPEG images, *Signal Processing*, 90(12): 3026-3036, 2010.

6) Ciphertext, Privacy & Others

- C. Qin, J. Hu, F Li, **Z. Qian**, and X. Zhang, JPEG Image Encryption with Adaptive DC Coefficient Prediction and RS Pair Permutation, *IEEE Transactions on Multimedia*, 2022, doi: 10.1109/TMM.2022.3148591
- Q. Song, S. Li, P. Wei, L. Ge, X. Zhang, **Z. Qian**, Joint Learning for Addressee Selection and Response Generation in Multi-Party Conversation, *2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2022)*, 22-27 May 2022, Singapore, accepted.
- F. Xie, L. Cai, Y. Sun, **Z. Qian**, J. Yang, Q. Cha, Uncovering Tourist Sentiments for Ethnic Ecotourism Destinations, *GTHC2022: 5th Global Tourism and Hospitality Conference*, Hong Kong, June 13-14, 2022.
- Z. You, S. Li, **Z. Qian***, and X. Zhang, Reversible Privacy-Preserving Recognition, *IEEE International Conference on Multimedia and Expo (ICME) 2021*, Shenzhen, China, 5-9 July 2021
- Y. Ren, M. Dong, **Z. Qian**, X. Zhang, and G. Feng, Efficient Algorithm for Secure Outsourcing of Modular Exponentiation with Single Server, *IEEE Transactions on Cloud Computing*, 9(1): 145-154, 2021.

- **Z. Qian**, X. Zhang and Y. Ren, JPEG encryption for image rescaling in the encrypted domain, *Journal of Visual Communication and Image Representation*, 26: 9-13, 2015.
- X. Zhang, Y. Ren, L. Shen, **Z. Qian**, and G. Feng. Compressing encrypted images with auxiliary information, *IEEE Transactions on Multimedia*, 16(5): 1327-1336, 2014.
- S. Wang, **Z. Qian**, L. Wang, et al, Recognition of layered structure using phase-frequency characteristics of reflected sound waves, *20th International Congress on Sound and Vibration 2013, ICSV 2013*, 1633-1637, Bangkok, Thailand, July, 2013.
- X Zhang, G Feng, Y Ren, and **Z Qian**, Scalable coding of encrypted images, *IEEE Transactions on Image Processing*, 21 (6): 3108-3114, 2012.
- G. Feng, **Z. Qian** and X. Zhang, Spectrum-estimation based lossless information recovery for sparse array patterns, *Telecommunication Systems*, 49(2): 163-169, 2012.