Siwei Lyu
University at Buffalo, State University of New York (SUNY)
January 27, 2026

SUNY Distinguished Professor
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EDUCATION

2005	Ph.D., Computer Science, Dartmouth College
2000	M.S., Computer Science and Technology, Peking University, China
1997	B.S., Information Science, Peking University, Beijing, China

APPOINTMENTS

University at Buffalo, State University of New York

2026 – Present	Director, Institute for AI and Data Science (IAD)
2025 – Present	SUNY Distinguished Professor, Computer Science and Engineering Department
2021 – Present	Co-Director, Center for Information Integrity (CII)
2020 – Present	SUNY Empire Innovation Professor, Computer Science and Engineering Department
2025 – Present	Adjunct Professor, Department of Communication

University at Albany, State University of New York

2019 – 2020	Professor, Computer Science Department
2014 – 2019	Associate Professor, Computer Science Department
2008 – 2014	Assistant Professor, Computer Science Department

New York University

2005 – 2008	Postdoctoral Fellow, Center for Neurosciences

Microsoft Research Asia

2000 – 2001	Assistant Researcher

RESEARCH SUMMARY

- Area: Machine Learning and Artificial Intelligence; Computer Vision; Media Forensics

- Publications: 250+ reviewed technical papers; 4 patents (27,297 citations; h-index 71)

- Sponsored research: Total grants $12.3M from NSF, DARPA, IARPA, Army Research Office, Air Force Research Lab, National Institute of Justice, Department of Homeland Security, and Public Safety Canada; Principal Investigator on $10.7M; PI of $5M NSF Convergence Accelerator Phase 2 Project

- Major Adviser: 15 doctoral students (9 graduated); 6 post-docs; 7 master students (thesis option)

- Service: Testified at the US House of Representatives Hearing on Online Imposters and Disinformation (2019, 2024, 2025); Testified at the NYS State Senate Hearing on Protecting Consumer Data and Privacy on Online Platforms (2019); Chair of the Scientific & Technical Committee on Image Authenticity for NIST's Organization of Scientific Area Committees for Forensic Science (2022); Editorial board member of top journals; General Chair of AVSS 2024

- Delivered more than 50 seminars worldwide including several keynote and plenary talks

- Research featured 250+ times in international media venues including CNN, USA Today, BBC, Wired Magazine, Wall Street Journal, National Geographic, NPR, and Reuters

- Research featured in the Thought Leader series of American Association of Forensic Sciences (2024) https://youtu.be/YUYWFp2NFIw?si=4jNGjrzzmfCO-zoZ

AWARDS & HONORS

- **Fellow of IEEE** – Institute of Electrical and Electronics Engineers (2022), "For contributions to counter-technologies of AI-synthesized fake media".
- **Fellow of IAPR** – International Association of Pattern Recognition (2022), "For contributions to the counter-technologies of DeepFakes".
- **Distinguished Member of ACM** – Association of Computing Machinery (2022), "For contributions to the detection of synthesized or manipulated multimedia".
- **Fellow of AAIA** – Asia-Pacific Artificial Intelligence Association (2022).
- IEEE Technological Innovation Award (2021), "For contributions to counter-technologies of Deep-Fakes".
- Google Faculty Research Award (2019), "Exploiting Physiological Signals to Expose AI-Generated Fake Videos".
- SUNY Chancellor's Award (2019), "In recognition of outstanding scholarship and creative productivity".
- UAlbany President's Award (2018), "For excellence in research and creative productivity".
- IEEE Signal Processing Society Best Paper Award (2010).
- Faculty Early Career (CAREER) Award of National Science Foundation (2010).
- Best Student Paper Award, IJCAI GLOW Workshop (2025).
- Best Student Paper Award, ACM IH & MMSec Workshop (2025).

GRANTS
- PI. Landscape Survey of Generative AI Technologies and Their Real-World Impacts. NSF Center for Identification Technology Research (CITeR), $400,000, 2024 - 2026.
- PI. Evaluating the Real-World Performance of DeepFake Audio and Video Detections. Google Inc., $65,000, 2024 - 2025.
- PI. Rubber Hits the Ground: Evaluating DeepFake Detection in Real World. NIST, $39,000, 2024.
- PI. Hardening of ground-based communication systems. AFRL STTR Phase 2 (collaboration with Hidden Layers Inc.), $539,000, 2024.
- PI. NSF Convergence Accelerator: Track F: Deception Awareness and Resilience Training (DART). National Science Foundation, Project 2137871, $5,000,000, 2022-2024.
- PI. SaTC: CORE: Small: Combating AI Synthesized Media Beyond Detection. National Science Foundation, Project SaTC-2153112, $616,000, 2022-2025.
- PI. NSF Convergence Accelerator: Track F: A Disinformation Range to Improve User Awareness and Resilience to Online Disinformation. National Science Foundation, Project OIA-2137871, $750,000, 2021-2022.
- PI. A study of new aggregate losses for machine learning. National Science Foundation, Project IIS-2008532, $448,333, 2020-2023.
- PI. Semantic Information Defender (SID). DARPA Semantic Forensics (SemaFor) Program, $448,000, 2020 - 2024.
- PI. New approaches to combine individual losses. Army Research Office, Project 81852, $375,000, 2018-2021.
- PI. Photons, pixels, photoshop and the Internet: Analyzing the life-cycle integrity of visual media. DARPA Media Forensics (MediFor) Program, FA8750-16-C-0166, $448,000, 2016 - 2020.
- PI. Blind noise estimation using signal statistics in random band-pass domains. National Science Foundation, Project CCF-1319800, $400,000, 2013-2017.
- PI. Methods to Detection of DeepFake Audios. Facebook Inc., $100,000, 2021-2022.
- Awardee. Google AI. Google Faculty Research Award, $50,000, 2019.

- PI. HiddenLayer MLSec Platform - Hardening of Ground-Based Communication Systems. AFRL STTR Phase I (collaboration with Hidden Layer Inc.), $15,000, 2023-2023.
- PI. Safe: Source agnostic deepfake detector. AFRL STTR Phase I (collaboration with IAI Inc.), $15,000, 2021-2021.
- Co-PI. Collaborative Research: SAI-R: Integrative Cyberinfrastructure for Enhancing and Accelerating Online Abuse Research. National Science Foundation, Project BCS-2228617, $375,000, 2022-2025.
- Co-PI. Yard locomotion detection system development. General Electronics (GE), $200,000, 2019-2020.
- Co-PI. Online AUC maximization algorithms for streaming data. National Science Foundation, Project IIS-1816227, $498,333, 2018-2021.
- Co-PI. Data collection and preparation. IARPA, Deep Insight of Vision Algorithms (DIVA) Program, $75,000, 2018-2019.
- Co-PI. Advanced metric learning for big data analysis. UAlbany Presidential Innovation Fund for Research and Scholarship, $50,000, 2017-2018.
- Co-PI. Continuation: A dynamic Bayesian approach to real-time estimation and filtering in grasp acquisition and other contact tasks. National Science Foundation, National Robotics Initiative (NRI) Project IIS-1537257, $220,000, 2015 - 2019.
- Co-PI. Practitioner centric video analysis. National Institute of Justice Project, 2013-IJ-CX-K010, $100,000, 2013 - 2015.
- Co-PI. A dynamic Bayesian approach to real-time estimation and filtering in grasp acquisition and other contact tasks. National Science Foundation, National Robotics Initiative (NRI), Project, IIS-1208463, $210,000, 2012-2016.
- Co-PI. Recognizing group behavior in surveillance videos. National Institute of Justice, $40,000, 2011 - 2013.
- Co-PI. Compressing and mining GPS stream data. University Transportation Research Center, $99,848, 2009-2010.
- Co-PI. Statistical patterns to detect financial fraud. IBM Research Center, $40,000, 2009 - 2010.

PUBLICATIONS

Google Scholar: https://scholar.google.com/citations?user=wefAEM4AAAAJ&hl=en
DBLP: http://dblp.uni-trier.de/pers/hd/l/Lyu:Siwei
ORCID: https://orcid.org/0000-0002-0992-685X

Books

B2. David Castillo, Cynthia Stewart, Elizabeth, and **Siwei Lyu**, editors. *Truth Seeking in Our Age of (Mis)Information Overload*. SUNY Press, June 2024.

B1. **Siwei Lyu**. *Natural Image Statistics in Digital Image Forensics*. VDM Verlag, 2008.

Book Chapters

BC6. Chengzhe Sun, Ehab AlBadawy, Timothy F. Davison, Sarah R. Robinson, Ming-Ching Chang, and **Siwei Lyu**. *Using Vocoder Artifacts For Audio Deepfakes Detection*, pages 263–282. Springer Nature Switzerland, Cham, 2024.

BC5. **Siwei Lyu**. Deepfake detection. In H. T. Sencar, Analisa Verdolivia, and N. Memon, editors, *Digital Image Forensics: There is More to a Picture than Meets the Eye*. Springer, 2nd edition, 2022.

BC4. Yuezun Li, Honggang Qi, and **Siwei Lyu**. Toward the creation and obstruction of deepfakes. In Christian Rathgeb, Ruben Tolosana, Ruben Vera-Rodriguez, and Christoph Busch, editors, *Handbook of Digital Face Manipulation and Detection: From DeepFakes to Morphing Attacks*. Springer, 2nd edition, 2022.

BC3. Yuezun Li and **Siwei Lyu**. Obstructing deepfakes by disrupting face detection and facial landmarks extraction. In Nalini K Ratha, Vishal M. Patel, and Rama Chellappa, editors, *Deep Learning-Based Face Analytics*. Springer, 2021.

BC2. **Siwei Lyu**. Ai-generated deepfakes and the challenge of detection. In Jesse Emspak, editor, *Technology vs. Truth: Deception in the Digital Age*, chapter 3.4. Scientific American (e-book), 2020.

BC1. **Siwei Lyu**. Natural image statistics for digital image forensics. In H. T. Sencar and N. Memon, editors, *Digital Image Forensics: There is More to a Picture than Meets the Eye*. Springer, 2012.

Refereed Journal Articles

J66. [TETCI26] W. Zhou et al. Exploring the potential of class-specific encoding for few-shot object detection. *IEEE Transactions on Emerging Topics in Computational Intelligence*, 2026.

J65. [MIR26] Shu Hu, Li Lin, Shail Desai, Aditya Sanjay Pawar, Guangyu Lin, Xin Wang, Daniel Stuart Schiff, Sachi Mohanty, Ryan Ofman, Narcis Bejtic, Jon Gillham, Wenbin Zhang, Baoyuan Wu, Cristian Canton, Xiaoming Liu, Luisa Verdoliva, **Siwei Lyu**, Yongwei Tang, Zhiqiang Wu, Seow Jia Wen, Zara Alaverdyan, Anne-Flore Baron, Simon Bozonnet, Martins Bruveris, Jochem Gietema, Lucia Innocenti, Lisa Ivanova, Olivier Koch, Yuhao Ni, Arthur Pajot, Romain Sabathe, Fengming Gu, Xingming Long, Jie Zhang, Wenqing Ge, Xiangkui Cao, Yuecong Min, Yingjie Liu, Zonghui Guo, Shiguang Shan, Jinhee Park, Minjun Kim, Ahyeon Park, Guisik Kim, Taewoo Kim, YoungJoon Yoo, Junseok Kwon, Zhaoda Li, Mengyun Tang, Leyang Huang, Bogdan Dura, Sebastian Balmus, Fang-Yi Su, Tsung-Hua Lee, and Ting-Wan Kao. The competition of fairness in ai-generated face detection: Methods and results. *Machine Intelligence Research*, 2026. Accepted. (impact factor: 8.70).

J64. [ASPIPA26] Chengzhe Sun, Tianle Yang, and **Siwei Lyu**. A survey of AI-generated voices and their detection. *APSIPA Transactions on Signal and Information Processing*, January 2026.

J63. [CSL26] (as participating team). ASVspoof 5: Design, collection and validation of resources for spoofing, deepfake, and adversarial attack detection using crowdsourced speech. *Computer Speech & Language*, 95:101825, January 2026.

J62. [FSI25] Tianle Yang, Chengzhe Sun, **Siwei Lyu**, and Phil Rose. Forensic deepfake audio detection using segmental speech features. *Forensic Science International*, page 112768, 2025.

J61. [ACTAPsy25] Dawn Sarnos and **Siwei Lyu**. Framing digital inauthenticity: Comparing user detection of AI-generated faces to messaged-based scam methods. *Acta Psychologica*, 2025.

J60. [JSTAT25] Defang Chen, Zhenyu Zhou, Can Wang, and **Siwei Lyu**. Geometric regularity in deterministic sampling dynamics of diffusion-based generative models. *Journal of Statistical Mechanics: Theory and Experiment (JSTAT)*, (to appear), 2025

J59. [FRONTIER25] Shanmin Yang, Hui Guo, Shu Hu, Bin Zhu, Ying Fu, **Siwei Lyu**, Xi Wu, and Xin Wang. Crossdf: Improving cross-domain deepfake detection with deep information decomposition. *Frontiers in Big Data*, 2025. To appear.

J58. [NN25] Jing Hu, Ziwei Luo, Chengming Feng, Shu Hu, Bin Zhu, Xi Wu, Xin Li, Hongtu Zhu, **Siwei Lyu**, and Xin Wang. Rl-i2it: Image-to-image translation with deep reinforcement learning. *Neural Networks*, 2025. minor revision.

J57. [IJCV25] Baoyuan Wu, Zihao Zhu, Li Liu, Qingshan Liu, Zhaofeng He, and **Siwei Lyu**. Attacks in adversarial machine learning: A systematic survey from the lifecycle perspective. *International Journal of Computer Vision*, 2025.

J56. [TCSVT25] Shan Lu, Siming Xu, Baosheng Yu, Mian Zou, Kede Ma, and **Siwei Lyu**. Semantics-oriented multitask learning for deepfake detection: A joint embedding approach. *IEEE Transactions on Circuits and Systems for Video Technology*, 2025. (to appear).

J55. [TOMM25b] Xin Wang, Pradeep Atray, Shu Hu, **Siwei Lyu**, and Ming-Ching Chang. Spotting the Fakes: A Deep Dive into GAN-Generated Face Detection. *ACM Transactions on Multimedia Computing, Communications and ApplicationsTransactions on Multimedia Computing Communications and Applications*, 2025. (to appear).

J54. [TLMR25] Zheyuan Zhan, Defang Chen, Jian-Ping Mei, Zhenghe Zhao, Jiawei Chen, Chun Chen, **Siwei Lyu**, and Can Wang. Conditional image synthesis with diffusion models: A survey. *Transactions on Machine Learning Research*, 2025. To appear.

J53. [TOMM25a] Bing Fan, Feng Ding, Guopu Zhu, Sam Kwong, Jiwu Huang, **Siwei Lyu**, and Pradeep Atray. Generating higher-quality anti-forensics DeepFakes with adversarial sharpening mask. *ACM Transactions on Multimedia Computing, Communications and Applications*, 2025. To be published.

J52. [TIFS25b] Mian Zou, Baosheng Yu, Yibing Zhan, **Siwei Lyu**, and Kede Ma. Semantic contextualization of face forgery: A new definition, dataset, and detection method. *IEEE Transactions on Information Forensics and Security (TIFS)*, 2025. To be published.

J51. [TIFS25a] Ye Yao, Tingfeng Han, Shan Jia, and **Siwei Lyu**. Dense Feature Interaction Network for Image Inpainting Localization. *IEEE Transactions on Information Forensics and Security (TIFS)*, 2025. To be published.

J50. [TMM24] Ying Fu, Xinyu Zhu, Xiaojie Li, Xin Wang, Xi Wu, Shu Hu, **Siwei Lyu**, and Yi Wu. VB-KGN: Variational Bayesian Kernel Generation Networks for Motion Image Deblurring. *IEEE Transactions on Multimedia*, 2024.

J49. [CVIU24] Yuezun Li, Pu Sun, Honggang Qi, and **Siwei Lyu**. LandmarkBreaker: A Proactive Method to Obstruct DeepFakes via Disrupting Facial Landmark Extraction. *Computer Vision and Image Understanding (CVIU)*, 2024.

J48. [TETC24] Pu Sun, Honggang Qi, Yuezun Li, and **Siwei Lyu**. FakeTracer: Catching Face-swap Deep-Fakes via Implanting Traces in Training. *IEEE Transactions on Emerging Topics in Computing (TETC)*, 2024.

J47. [OCJ24] **Siwei Lyu**. DeepFake the Menace: Mitigating the Negative Impacts of AI-synthesized Media. *Organizational Cybersecurity Journal: Practice, Process and People*, to appear, 2024.

J46. [TCSVT24] Cong Zhang, Honggang Qi, Shuhui Wang, Yuezun Li, and **Siwei Lyu**. COMICS: End-to-end Bi-grained Contrastive Learning for Multi-face Forgery Detection. *IEEE Transactions on Circuits and Systems for Video Technology*, 2024.

J45. [TIFS24] Jiucui Lu, Jiaran Zhou, Bin Li, Junyu Dong, **Siwei Lyu**, and Yuezun Li. Forensicsforest family: A series of multi-scale hierarchical cascade forests for detecting gan-generated faces. *IEEE Transactions on Information Forensics and Security*, 2024.

J44. [TMM24] Yan Ju, Shan Jia, Jialing Cai, Haiying Guan, and **Siwei Lyu**. GLFF: Global and Local Feature Fusion for AI-synthesized Image Detection. *IEEE Transactions on Multimedia*, 26:4073–4085, 2024. (impact factor: 8.83).

J43. [ELE23] Peng Zheng, Hao Chen, Shu Hu, Bin Zhu, Jinrong Hu, Ching-Sheng Lin, Xi Wu, **Siwei Lyu**, Guo Huang, and Xin Wang. Few-shot Learning for Misinformation Detection based on Contrastive Models. *Electronics*, 2023.

J42. [PAMI23] Shu Hu, Xin Wang, and **Siwei Lyu**. Rank-based Decomposable Losses in Machine Learning: A Survey. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2023. (impact factor: 24.314).

J41. [TNNLS23] Ao Luo, Fan Yang, Xin Li, Yuezun Li, Zhicheng Jiao, Hong Cheng, and **Siwei Lyu**. Robust scene parsing by mining supportive knowledge from dataset. *IEEE Transactions on Neural Networks and Learning Systems*, 34(5):2633–2646, 2023. (impact factor: 8.793).

J40. [ACCESS23] Jing Hu, Zhikun Shuai, Xin Wang, Shu Hu, Shanhui Sun, **Siwei Lyu**, and Xi Wu. Attention Guided Policy Optimization for 3D Medical Image Registration. *IEEE Access*, 2023. (impact factor: 4.098).

J39. [FRONTIER23] Xin Wang, Bin Kong, and **Siwei Lyu**. Attention-driven Tree-structured Convolutional LSTM for High Dimensional Data Understanding. *Frontiers in Physics*, 2023. (impact factor: 3.718).

J38. [PRL22] Pu Sun, Yuezun Li, Honggang Qi, and **Siwei Lyu**. LandmarkGAN: Synthesizing Faces from Landmarks. *Pattern Recognition Letters*, 161(C):90–98, 2022. (impact factor: 2.810).

J37. [PR22] Wenbo Pu, Jing Hu, Xin Wang, Yuezun Li, Shu Hu, Bin Zhu, Qi Song, Xi Wu, and **Siwei Lyu**. Learning a Deep Dual-Level Network for Robust DeepFake Detection. *Pattern Recognition*, 130, 2022. (impact factor: 3.962).

J36. [ACCESS22] Hui Guo, Xin Wang, Shu Hu, Ming-Ching Chang, and **Siwei Lyu**. Robust Attentive Deep Neural Network for Detecting GAN-Generated Faces. *IEEE Access*, 10:2169–3536, 2022. (impact factor: 4.098).

J35. [JMLR22] Shu Hu, Yiming Ying, Xin Wang, and **Siwei Lyu**. Sum of ranked range loss for supervised learning. *Journal of Machine Learning Research (JMLR)*, 23(1):1–44, April 2022. (impact factor: 4.091).

J34. [TIP22] Lipeng Ke, Ming-Ching Chang, Honggang Qi, and **Siwei Lyu**. DetPoseNet: Improving Multi-Person Pose Estimation ia Coarse-Pose Filtering. *IEEE Transactions on Image Processing*, 31:2782–2795, 2022. (impact factor: 5.071).

J33. [PR21] Xian Zhang, Xin Wang, Bin Kong, Youbing Yin, Qi Song, **Siwei Lyu**, Jiancheng Lv, Xi Wu, and Xiaojie Li. High quality image-based face inpainting using DE-GAN: Domain Embedded Multi-model Generative Adversarial Networks. *Pattern Recognition*, ((to appear)), 2021. (impact factor: 3.962).

J32. [CVIU22] Wenbo Li, Yi Wei, **Siwei Lyu**, and Ming-Ching Chang. Simultaneous multi-person tracking and activity recognition based on cohesive cluster search. *International Journal on Computer Vision and Image Understanding (CVIU)*, 214:103301, January 2022. (impact factor: 3.876).

J31. [CVIU21] Yuezun Li, Pu Sun, Honggang Qi, Junyu Dong, Ming-Ching Chang, Honggang Qi, Jongwoo Lim, Ming-Hsuan Yang, and **Siwei Lyu**. Transrpn: Towards the transferable adversarial perturbations using region proposal networks and beyond. *International Journal on Computer Vision and Image Understanding (CVIU)*, 213:103302, November 2021. (impact factor: 3.876).

J30. [TMM21] Feng Ding, Guopu Zhu, Yingcan Li, Xinpeng Zhang, Pradeep Atray, and **Siwei Lyu**. Anti-forensics for face swapping videos via adversarial training. *IEEE Transactions on Multimedia*, page (to appear), 2021. (impact factor: 8.83).

J29. [TCYB21] Lipeng Ke, Ming-Ching Chang, Longyin Wen, Honggang Qi, and **Siwei Lyu**. Fast online video pose estimation by dynamic Bayesian modeling of mode transitions. *IEEE Transactions on Cybernetics*, 51(1):2–15, 2021. (impact factor: 8.803).

J28. [MIA20] Jing Hu, Ziwei Luo, Xin Wang, Shanhui Sun, Youbing Yin, Kunlin Cao, Qi Song, **Siwei Lyu**, and Xi Wu. End-to-end multimodal image registration via reinforcement learning. *Medical Image Analysis*, 68:101878, 2021. (impact factor: 11.280).

J27. [PAMI20] **Siwei Lyu**, Yanbo Fan, Yiming Ying, and Baogang Hu. Average top-k loss for supervised learning. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, ((early access)):1–1, 2020. (impact factor: 24.314).

J26. [ACCESS20] Yanbo Fan, Baoyuan Wu, Ran He, Baogang Hu, Yong Zhang, and **Siwei Lyu**. Groupwise ranking loss for multi-label learning. *IEEE Access*, to appear, 2020. (impact factor: 4.098).

J25. [CVIU20] Longyin Wen, Dawei Du, Zhaowei Cai, Zhen Lei, Ming-Ching Chang, Honggang Qi, Jongwoo Lim, Ming-Hsuan Yang, and **Siwei Lyu**. UA-DETRAC: A New Benchmark and Protocol for Multi-Object Detection and Tracking. *International Journal on Computer Vision and Image Understanding (CVIU)*, 193:102907, 2020. (impact factor: 3.876).

J24. [FRONTIER19] Michael Anthony Natole, Yiming Ying, and **Siwei Lyu**. Stochastic AUC optimization algorithms with linear convergence. *Frontiers in Applied Mathematics and Statistics, section Mathematics of Computation and Data Science*, 2019. (impact factor: 3.678).

J23. [SPL19] Zhe Xue, Dawei Du, Qingming Huang, and **Siwei Lyu**. Deep constrained low-rank subspace learning for multi-view semi-supervised classification. *IEEE Signal Processing Letters*, 2019. (impact factor: 3.268).

J22. [INFOSCI19] Zhe Xue, Junping Du, Dawei Du, and **Siwei Lyu**. Deep low-rank subspace ensemble for multi-view clustering. *Information Science*, 482:210–227, 2019. (impact factor: 4.305).

J21. [IJCV19] Longyin Wen, Zhen Lei, **Siwei Lyu**, and Stan Z. Li. Single-shot scale-aware network for real-time face detection. *International Journal of Computer Vision*, 127(6-7):537–559, 2019. (impact factor: 11.541).

J20. [PR18] Xin Wang, Ming-Ching Chang, Lan Wang, and **Siwei Lyu**. Efficient algorithms for graph regularized PLSA for probabilistic topic modeling. *Pattern Recognition*, 86:236–247, Feburary 2018. (impact factor: 3.962).

J19. [IJCV18] Baoyuan Wu, Bernard S. Ghanem, Wei Liu, and **Siwei Lyu**. Multi-label learning with missing labels using mixed dependency graphs. *International Journal of Computer Vision*, 126(8):875 – 896, 2018. (impact factor: 11.541).

J18. [TOMM18] Longyin Wen, Honggang Qi, and **Siwei Lyu**. Contrast enhancement estimation for digital image forensics. *ACM Transactions on Multimedia Computing, Communications and Applications*, 14(2):49:1–49:21, 2018. (impact factor: 2.019).

J17. [SCIS18] Hui Zeng, Jingjing Yu, Xiangui Kang, and **Siwei Lyu**. Countering JPEG anti-forensics based on noise level estimation. *Science China Information Sciences*, 61:032103, 2018. (impact factor: 2.188).

J16. [TIP17] Dawei Du, Longyin Wen, Honggang Qi, Qingming Huang, Tian Qi, and **Siwei Lyu**. Iterative graph seeking for object tracking. *IEEE Transactions on Image Processing*, 27(4):1809–1821, 2017. (impact factor: 5.071).

J15. [TCYB17] Dawei Du, Honggang Qi, Longyin Wen, Qingming Huang, Tian Qi, and **Siwei Lyu**. Geometric hypergraph learning for visual tracking. *IEEE Transactions on Cybernetics*, 47(12):4182–4195, 2017. (impact factor: 8.803).

J14. [IJCV16] Longyin Wen, Zhen Lei, Ming-Ching Chang, Honggang Qi, and **Siwei Lyu**. Multi-camera multi-target tracking with space-time-view hyper-graph. *International Journal of Computer Vision*, 122(2):313–333, 2016. (impact factor: 11.541).

J13. [TIP16] Dawei Du, Honggang Qi, Wenbo Li, Longyin Wen, Qingming Huang, and **Siwei Lyu**. Online deformable object tracking based on structure-aware hyper-graph. *IEEE Transactions on Image Processing*, 25(8):3572 – 3584, 2016. (impact factor: 5.071).

J12. [TCVG16] Yan Kong, Weiming Dong, Xing Mei, Chongyang Ma, Tong-Yee Lee, **Siwei Lyu**, Feiyue Huang, and Xiaopeng Zhang. Measuring and predicting visual importance of similar objects. *IEEE Transactions on Visualization and Computer Graphics*, 22(12):2564 – 2578, 2016. (impact factor: 3.078).

J11. [PAMI16] Longyin Wen, Zhen Lei, **Siwei Lyu**, Stan Z. Li, and Ming-Hsuan Yang. Exploiting hierarchical dense structures on hypergraphs for multi-object tracking. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 38(10):1983–1996, 2016. (impact factor: 24.314).

J10. [PR15] Baoyuan Wu, **Siwei Lyu**, Baogang Hu, and Qiang Ji. Multi-label learning with missing labels for image annotation and facial action unit recognition. *Pattern Recognition*, 48(7):2279–2289, 2015. (impact factor: 3.962).

J9. [IJCV14] **Siwei Lyu**, Xunyu Pan, and Xing Zhang. Exposing region splicing forgeries with blind local noise estimation. *International Journal of Computer Vision*, 110(2):202–221, November 2014. (impact factor: 11.541).

J8. [NC11] **Siwei Lyu**. Divisive normalization as an efficient coding transform: Justification and effectiveness. *Neural Computation*, 23(11):2942–2973, November 2011. (impact factor: 3.278).

J7. [TIFS10] Xunyu Pan and **Siwei Lyu**. Region duplication detection using image feature matching. *IEEE Transactions on Information Forensics and Security*, 5(4):857–867, December 2010. (impact factor: 5.824).

J6. [NC09] **Siwei Lyu** and Eero P. Simoncelli. Nonlinear extraction of 'independent components' of natural images using radial Gaussianization. *Neural Computation*, 18(6):1–35, June 2009, **Featured on the cover page**. (impact factor: 3.278).

J5. [PAMI08] **Siwei Lyu** and Eero P. Simoncelli. Modeling multiscale subbands of photographic images with fields of Gaussian scale mixtures. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 31(4):693–706, April 2009. (impact factor: 9.455).

J4. [TIFS06] **Siwei Lyu** and Hany Farid. Steganalysis using higher-order image statistics. *IEEE Transactions on Information Forensics and Security*, 1(1):111–119, January 2006, **IEEE Signal Processing Society Best Paper Award.** (impact factor: 5.824).

J3. [IFAR06] Dan Rockmore, **Siwei Lyu**, and Hany Farid. A digital technique for authentication in the arts. *International Foundation for Art Research (IFAR) Journal*, 8(2):21–29, 2006. (invited feature article).

J2. [TSP05] **Siwei Lyu** and Hany Farid. How realistic is photorealistic? *IEEE Transactions on Signal Processing*, 53(2):845–850, Feburary 2005. (impact factor: 2.628).

J1. [PNAS04] **Siwei Lyu**, Dan Rockmore, and Hany Farid. A digital technique for art authentication. *Proceedings of the National Academy of Sciences*, 101(49):17006–17010, November 2004. (impact factor: 9.504).

Prestigious Conference Papers (CVPR, ECCV, ICCV, NeurIPS/NIPS, ICML, IJCAI, AAAI, ICLR)

C193. [ICLR26] Zihao Zhu, Xinyu Wu, Gehan Hu, **Siwei Lyu**, Ke Xu, and Baoyuan Wu. Advchain: Adversarial chain-of-thought tuning for robust safety alignment of large reasoning models. In *Proceedings of the International Conference on Learning Representations (ICLR)*, Rio de Janeiro, Brazil, April 2026. (Acceptance rate: 28% of ∼19,000 submissions).

C192. [AAAI26] Zhenyu Zhou, Defang Chen, Can Wang, Chun Chen, and **Siwei Lyu**. DICE: Distilling Classifier-Free Guidance into Text Embeddings. In *Proceedings of the AAAI Conference on Artificial Intelligence*, Singapore, 2026. Oral Presentation (Oral presentation). (Acceptance rate: 4,167 of 23,680 (17.6%) submissions).

C191. [NeurIPS25] Yize Chen, Zhiyuan Yan, Guangliang Cheng, Kangran Zhao, **Siwei Lyu**, and Baoyuan Wu. $\mathcal{X}^2$-dfd: A framework for explainable and extendable deepfake detection. In *Proceedings of the 39th Conference on Neural Information Processing Systems (NeurIPS 2025), Poster*, San Diego, USA and Mexico City, Mexico, December 2025. Curran Associates, Inc. Published: 18 Sept 2025; Last Modified: 18 Sept 2025. (Acceptance rate: 5,290 of 21,575 (24.52%) submissions).

C190. [ICCV25a] Wujie Sun, Defang Chen, **Siwei Lyu**, Genlang Chen, Chun Chen, and Can Wang. Knowledge distillation with refined logits. In *Proceedings of the IEEE/CVF International Conference on Computer Vision*, 2025. (Acceptance rate: 2,698 of 11,239 (24%) submissions).

C189. [ICCV25b] Naresh Devulapally, Mingzhen Huang, Vishal Asnani, Shruti Agarwal, **Siwei Lyu**, and Vishnu Suresh Lokhande. Your text encoder can be an object-level watermarking controller. In *Proceedings of the IEEE/CVF International Conference on Computer Vision*, 2025. (Acceptance rate: 2,698 of 11,239 (24%)

C188. [CVPR25] Mingzhen Huang, FU-JEN CHU, Bugra Tekin, Kevin J Liang, Haoyu Ma, Weiyao Wang, Xingyu Chen, Pierre Gleize, Hongfei Xue, **Siwei Lyu**, Kris Kitani, Matt Feiszli, and Hao Tang. HOIGPT: Learning Long Sequence Hand-Object Interaction with Language Models. In *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, Nashville, Tennesse, USA, 2025. (Acceptance rate: 2,878 of 13,008 (22.1%) submissions).

C187. [NeurIPS24a] Zhenyu Zhou, Defang Chen, Can Wang, Chun Chen, and **Siwei Lyu**. Simple and fast distillation of diffusion models. In *Advances in Neural Information Processing Systems (NeurIPS)*, Vancouver, Canada, 2024. (Acceptance rate: 4,043 of 15,671 (25.8%) submissions).

C186. [NeurIPS24b] Yifan Yang, Zhaofeng Si, **Siwei Lyu**, and Kaiyi Ji. First-order minimax bilevel optimization. In *Advances in Neural Information Processing Systems (NeurIPS)*, Vancouver, Canada, 2024. (Acceptance rate: 4,043 of 15,671 (25.8%) submissions).

C185. [NeurIPS24c] Mingzhen Huang, Jialing Cai, Shan Jia, Vishnu Suresh Lokhande, and **Siwei Lyu**. Paralleledits: Efficient multi-aspect text-driven image editing with attention grouping. In *Advances in Neural Information Processing Systems (NeurIPS)*, Vancouver, Canada, 2024. (Acceptance rate: 4,043 of 15,671 (25.8%) submissions).

C184. [ICML24] Defang Chen, Zhenyu Zhou, Can Wang, Chunhua Shen, and **Siwei Lyu**. On the sampling structure of diffusion models. In *Proceedings of the Forty-first International Conference on Machine Learning*, Vienna, Austria, 2024. (Acceptance rate: 2,609 of 9,473 (27.5%) submissions).

C183. [CVPR24] Zhiyuan Yan, Yuhao Luo, **Siwei Lyu**, Qingshan Liu, and Baoyuan Wu. Transcending Forgery Specificity with Latent Space Augmentation for Generalizable Deepfake Detection. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Seattle, WA, United States, June 2024. (Acceptance rate: 30% of 9,155 submissions).

C182. [ICLR24] Mingzhen Huang, Shan Jia, Zhou Zhou, Yan Ju, Jialing Cai, and **Siwei Lyu**. Exposing text-image inconsistency using diffusion models. In *International Conference on Learning Representatives (ICLR)*, Vienna, Austria, May 2024. (Acceptance rate: 31% of 7,262 submissions).

C181. [IJCAI23] Chengming Feng, Jing Hu, Xin Wang, Shu Hu, Bin Zhu, Xi Wu, Hongtu Zhu, and **Siwei Lyu**. Controlling Neural Style Transfer with Deep Reinforcement Learning. In *International Joint Conference on Artificial Intelligence (IJCAI)*, Macau, China, 2023 (Acceptance rate 685 out of 4,566 (15.10%) submissions).

C180. [CVPR23] Mingzhen Huang, Xiaoxing Li, Jun Hu, Honghong Peng, and **Siwei Lyu**. Tracking multiple deformable objects in egocentric videos. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Vancouver, Canada, 2023 (Acceptance rate 2,360 out of 9,155 (25.78%) submissions).

C179. [ECCV22] Luchuan Song, Zheng Fang, Xiaodan Li, Xiaoyi Dong, Zhenchao Jin, Yuefeng Chen, and **Siwei Lyu**. Profiling intra-consistency and instance-discrimination for face forgery detection. In *European Conference on Computer Vision (ECCV)*, Tel Aviv, Isreal, October 2022 (Acceptance rate 1,650 out of 5,803 (28.0%) submissions).

C178. [AAAI22a] Lipeng Ke, Kuan-Chuan Peng, and **Siwei Lyu**. Towards To-a-T Spatio-Temporal Focus for Skeleton-Based Action Recognition. In *AAAI Conference on Artificial Intelligence (AAAI)*, Vancouver, Canada, 2022 (Acceptance rate 1,349 out of 9,020 (15%) submissions).

C177. [AAAI22b] Ziwei Luo, Jing Hu, Xin Wang, Shu Hu, Bin Kong, Youbing Yin, Qi Song, Xi Wu, and **Siwei Lyu**. Stochastic Planner-Actor-Critic for Unsupervised Deformable Image Registration. In *AAAI Conference on Artificial Intelligence (AAAI)*, Vancouver, Canada, 2022 (Acceptance rate 1,349 out of 9,020 (15%) submissions).

C176. [ICCV21a] Yuezun Li, Yiming Li, Baoyuan Wu, Longkang Li, Ran He, and **Siwei Lyu**. Invisible backdoor attack with sample-specific triggers. In *IEEE International Conference on Computer Vision (ICCV)*, virtual, 2021. (Acceptance rate 1,617 out of 6,236 (25.9%) submissions).

C175. [ICCV21b] Shu Hu, Lipeng Ke, Xin Wang, and **Siwei Lyu**. T_kML-AP: Adversarial attacks to top-k multi-label learning. In *IEEE International Conference on Computer Vision (ICCV)*, virtual, 2021. (Acceptance rate 1,617 out of 6,236 (25.9%) submissions).

C174. [IJCAI21] Ziwei Luo, Jing Hu, Xin Wang, **Siwei Lyu**, Bin Kong, Youbing Yin, Qi Song, and Xi Wu. Stochastic actor-executor-critic for image-to-image translation. In *International Joint Conference on Artificial Intelligence (IJCAI)*, virtual, 2021. (Acceptance rate 587 out of 4,204 (13.9%) submissions).

C173. [CVPR21] Longyin Wen, Dawei Du, Pengfei Zhu, Qinghua Hu, Qilong Wang, Liefeng Bo, and **Siwei Lyu**. Detection, Tracking, and Counting Meets Drones in Crowds: A Benchmark. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Nashville, Tennesse, USA, 2021. (Acceptance rate 1,593 out of 7,500 (21.2%) submissions).

C172. [NeurIPS20] Shu Hu, Yiming Ying, Xin Wang, and **Siwei Lyu**. Learning by minimizing the sum of ranked range. In *Advances in Neural Information Processing Systems (NeurIPS)*, Montreal, QC, Canada, 2020. (Acceptance rate 1,900 out of 9,454 (20.1%) submissions).

C171. [ECCV20a] Ao Luo, Xin Li, Fan Yang, Zhicheng Jiao, Hong Cheng, and **Siwei Lyu**. Cascade Graph Neural Networks for RGB-D Salient Object Detection. In *European Conference on Computer Vision (ECCV)*, Glasgow, UK, 2020. (Acceptance rate 1,361 out of 5,025 (27%) submissions).

C170. [ECCV20b] Ruyi Ji, Dawei Du, Libo Zhang, Longyin Wen, Zhao Chen, Yanjun Wu, Feiyue Huang, and **Siwei Lyu**. Learning semantic neural tree for human parsing. In *European Conference on Computer Vision (ECCV)*, Glasgow, UK, 2020. (Acceptance rate 1,361 out of 5,025 (27%) submissions).

C169. [CVPR20] Yuezun Li, Pu Sun, Honggang Qi, and **Siwei Lyu**. Celeb-DF: A Large-scale Challenging Dataset for DeepFake Forensics. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Seattle, WA, United States, 2020. (Acceptance rate 1,470 out of 6,656 (22%) submissions).

C168. [AAAI20] Wenbo Li, Yi Wei, Ming-Ching Chang, and **Siwei Lyu**. 3D Single-Person Concurrent Activity Detection Using Stacked Relation Network. In *34th AAAI Conference on Artificial Intelligence (AAAI-20)*, New York, NY, United States, 2020. (Acceptance rate 1,591 out of 7,737 (20.6%) submissions).

C167. [IJCAI19] Zhe Xue, Junping Du, Dawei Du, Wenqi Ren, and **Siwei Lyu**. Deep correlated predictive subspace learning for incomplete multi-view semi-supervised classification. In *International Joint Conference on Artificial Intelligence (IJCAI)*, Macau, China, 2019. (Acceptance rate 850 out of 4350 (19.5%) submissions).

C166. [CVPR19] Wenbo Li, Pengchuan Zhang, Lei Zhang, Qiuyuan Huang, **Siwei Lyu**, and Jianfeng Gao. Object-driven text-to-image synthesis via adversarial training. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Long Beach, CA, United States, 2019. (Acceptance rate 25.2% of 5165 submissions).

C165. [AAAI19a] Longyin Wen, Dawei Du, Shengkun Li, Xiao Bian, and **Siwei Lyu**. Learning Non-Uniform Hypergraph for Multi-Object Tracking. In *33rd AAAI Conference on Artificial Intelligence (AAAI-19)*, Honolulu, HI, United States, 2019. (Acceptance rate 16% of 7,500 submissions).

C164. [AAAI19b] Dan Liu, Dawei Du, Libo Zhang, Tiejian Luo, Yanjun Wu, Feiyue Huang, and **Siwei Lyu**. Scale Invariant Fully Convolutional Network: Detecting Hands Efficiently. In *33rd AAAI Conference on Artificial Intelligence (AAAI-19)*, Honolulu, HI, United States, 2019. (Acceptance rate 16% of 7,500 submissions).

C163. [ECCV18] Lipeng Ke, Ming-Ching Chang, Honggang Qi, and **Siwei Lyu**. Multi-scale structure-aware network for human pose estimation. In *European Conference on Computer Vision (ECCV)*, Munich, Germany, 2018. (Acceptance rate 31% of 3,700).

C162. [ICML18] Yiming Ying, Micheal Natole, and **Siwei Lyu**. Stochastic proximal algorithms for AUC maximization. In *International Conference on Machine Learning (ICML)*, Stockholm, Sweden, 2018. (Acceptance rate 25% of 2473 submissions).

C161. [CVPR18] Baoyuan Wu, Bernard S. Ghanem, Wei Liu, and **Siwei Lyu**. Tagging like humans: Diverse and distinct image annotation. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Salt Lake City, UT, United States, 2018. (Acceptance rate 24% of 5687 submissions).

C160. [NIPS17] Yanbo Fan, **Siwei Lyu**, Yiming Ying, and Baogang Hu. Learning with average top-k loss. In *Advances in Neural Information Processing Systems (NIPS)*, Long Beach, CA, United States, 2017. (Acceptance rate 21% of 3240 submissions).

C159. [ICCV17] Wenbo Li, Longyin Wen, Ming-Ching Chang, Ser nam Lim, and **Siwei Lyu**. Adaptive RNN tree for large-scale human action recognition. In *IEEE International Conference on Computer Vision (ICCV)*, Venice, Italy, 2017.

C158. [AAAI17] Yang Yang, Longyin Wen, **Siwei Lyu**, and Stan Z. Li. Learning multi-level descriptors for person re-identification. In *31st AAAI Conference on Artificial Intelligence (AAAI-17)*, San Francisco, CA, United States, 2017. (Acceptance rate 26% of 2132 submissions).

C157. [NIPS16] Yiming Ying, Longyin Wen, and **Siwei Lyu**. Stochastic online auc maximization. In *Advances in Neural Information Processing Systems (NIPS)*, Barcelona, Spain, December 2016. (**Oral**, Acceptance rate 1.8% of 2500 submissions).

C156. [AAAI16a] Baoyuan Wu, **Siwei Lyu**, and Bernard S. Ghanem. Multi-label learning to missing labels and class imbalance. In *30th AAAI Conference on Artificial Intelligence (AAAI-16)*, Phoenix, AZ, United States, 2016 (Acceptance rate 26% of 2132 submissions).

C155. [AAAI16b] Xin Wang, Yiming Ying, Ming-Ching Chang, and **Siwei Lyu**. Co-regularized PLSA for multi-modal learning. In *30th AAAI Conference on Artificial Intelligence (AAAI-16)*, Phoenix, AZ, United States, 2016 (Acceptance rate 26% of 2132 submissions).

C154. [ICCV15a] Wenbo Li, Longyin Wen, Mooi Choo Chua, and **Siwei Lyu**. Category-blind human action recognition: A practical recognition system. In *IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015 (Acceptance rate 30% of 1698 submissions).

C153. [ICCV15b] Baoyuan Wu, **Siwei Lyu**, and Bernard S. Ghanem. ML-MG: Multi-label learning with missing labels using a mixed graph. In *IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015 (Acceptance rate 30% of 1698 submissions).

C152. [ICCV15c] Xing Mei, Honggang Qi, Baogang Hu, and **Siwei Lyu**. Improving image restoration with soft-rounding. In *IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015 (Acceptance rate 30% of 1698 submissions).

C151. [CVPR15] Xing Mei, Weiming Dong, Baogang Hu, and **Siwei Lyu**. UniHIST: A unified framework for image restoration with histogram. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Boston, MA, United States, 2015. (Acceptance rate 30% of 2400 submissions).

C150. [CVPR14] Xing Zhang and **Siwei Lyu**. Using projection kurtosis concentration of natural images for blind noise covariance matrix estimation. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Columbus, OH, United States, 2014. (Acceptance rate 30% of 1807 submissions)

C149. [NIPS13] **Siwei Lyu** and Xin Wang. On algorithms of sparse multi-factor nonnegative matrix factorization. In *Advances in Neural Information Processing Systems (NIPS)*, South Lake Tahoe, CA, United States, 2013. (Acceptance rate 25% of 1420 submissions)

C148. [ICCV13] Baoyuan Wu, **Siwei Lyu**, Baogang Hu, and Qiang Ji. Simultaneous clustering and tracklet linking for multi-face tracking in videos. In *IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, 2013. (Acceptance rate 29% of 1505 submissions)

C147. [IJCAI13] Zuoguan Wang, **Siwei Lyu**, and Qiang Ji. Deep feature learning using target priors with applications in ECoG signal decoding for BCI. In *International Joint Conference on Artificial Intelligence (IJCAI)*, Beijing, China, August 2013. (**Oral**, Acceptance rate 28% of 1473 submissions)

C146. [NIPS12] Zuoguan Wang, **Siwei Lyu**, G. Schalk, K. Miller, and Qiang Ji. Learning with target priors. In *Advances in Neural Information Processing Systems (NIPS)*, South Lake Tahoe, CA, United States, 2012. (Acceptance rate 24% of 1467 submissions)

C145. [NIPS11] **Siwei Lyu**. Unifying non-maximum likelihood learning objectives with minimum KL contraction. In *Advances in Neural Information Processing Systems (NIPS)*, Granada, Spain, 2011. (Acceptance rate 22% of 1400 submissions)

C144. [NIPS10] **Siwei Lyu**. Divisive normalization: Justification and effectiveness as efficient coding transform. In *Advances in Neural Information Processing Systems (NIPS)*, Vancouver, Canada, 2010. (Acceptance rate 24% of 1219 submissions)

C143. [CVPR09] **Siwei Lyu**. An implicit Markov random field model for natural images in multi-scale oriented representations. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Miami Beach, FL, United States, June 2009. (Acceptance rate 26% of 1464 submissions)

C142. [NIPS08] **Siwei Lyu** and Eero P. Simoncelli. Reducing statistical dependencies in natural signals using radial Gaussianization. In *Advances in Neural Information Processing Systems (NIPS)*, Vancouver, Canada, 2008. (**Oral**, Acceptance rate 2.7% of 1022 submissions)

C141. [CVPR08] **Siwei Lyu** and Eero P. Simoncelli. Nonlinear image representation using divisive normalization. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Anchorage, AK, United States, June 2008. (Acceptance rate 24% of 1593 submissions)

C140. [NIPS06] **Siwei Lyu** and Eero P. Simoncelli. Statistical modeling of images with fields of Gaussian scale mixtures. In *Advances in Neural Information Processing Systems (NIPS)*, Vancouver, Canada, 2006. (Acceptance rate 26%)

C139. [CVPR05a] **Siwei Lyu**. Mercer kernels for object recognition with local features. In *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, San Diego, CA, United States, 2005. (Acceptance rate 26%)

C138. [CVPR05b] **Siwei Lyu**. Infomax boosting. In *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, San Diego, CA, United States, 2005. (Acceptance rate 26%)

Other Conference Papers (6+ pages)

C137. [NeurIPSW25] Zihao Zhu, Hongbao Zhang, Ruotong Wang, Ke Xu, **Siwei Lyu**, and Baoyuan Wu. To think or not to think: Exploring the unthinking vulnerability in large reasoning models. In *Foundations of Reasoning in Language Models (FoRLM), NeurIPS 2025 Workshop*, 2025. Accepted

C136. [AVSS25] Jialing Cai, Chengzhe Sun, Soumyya Kanti Datta, and **Siwei Lyu**. A landscape survey of tools and real-world cases of AI-generated media. In *Proceedings of the IEEE International Conference on Advanced Visual and Signal-Based Systems (AVSS)*, Tainan, Taiwan, 2025. IEEE

C135. [3D-Sec25] Zhaofeng Si and **Siwei Lyu**. Tamper-evident image using jpeg fixed points. In *Proceedings of the 2025 Deepfake, Deception, and Disinformation Security Workshop (3D-Sec '25)*. ACM, 2025.

C134. [ICCVW25a] Soumyya Kanti Datta, Tanvi Ranga, Chengzhe Sun, and **Siwei Lyu**. Pia: Deepfake detection using phoneme-temporal and identity-dynamic analysis. In *Proceedings of the APAI Workshop at ICCV*, 2025.

C133. [ICCVW25b] Yan Ju, Hongfei Xue, and **Siwei Lyu**. Freqpure: a high-frequency preservation diffusion-based purification method for protective perturbation removal. In *Proceedings of the APAI Workshop at ICCV*, 2025.

C132. [ICCVW25c] Yu Cai, Jiahe Tian, Xiaomeng Fu, Jiao Dai, Jizhong Han, and **Siwei Lyu**. Adaptive test-time semantic debiasing for ai-generated image detection. In *Proceedings of the APAI Workshop at ICCV*, 2025.

C131. [ICCVW25d] Yu Cai, Shan Jia, Jiahe Tian, Jiao Dai, Jizhong Han, and **Siwei Lyu**. Cataid: Category-guided ai-generated image detection via vision-language model adaptation. In *Proceedings of the APAI Workshop at ICCV*, 2025.

C130. [IJCAIW25] Zhaofeng Si, Shu Hu, Kaiyi Ji, and **Siwei Lyu**. Meta-learning with heterogeneous tasks. In *International Workshop on Generalizing from Limited Resources in the Open World Workshop (GLOW) at International Joint Conference on Artificial Intelligence (IJCAI) 2025*, Montreal, Canada, August 2025.

C129. [IHMMSec25] Yu Cai, Peng Chen, Jiahe Tian, Jin Liu, Jiao Dai, Xi Wang, Yesheng Chai, Shan Jia, **Siwei Lyu**, and Jizhong Han. Modality-agnostic deepfakes detection. In *Proceedings of the ACM Workshop on Information Hiding and Multimedia Security (IH&MMSec)*, San Jose, CA, United States, June 2025. (Best Student Paper Award).

C128. [MIPR24] Yan Ju, Chengzhe Sun, Shan Jia, Shuwei Hou, Zhaofeng Si, Soumyya Kanti Datta, Lipeng Ke, Riky Zhou, Anita Nikolich, and **Siwei Lyu**. Deepfake-o-meter v2. 0: An open platform for deepfake detection. In *2024 IEEE 7th International Conference on Multimedia Information Processing and Retrieval (MIRP)*. IEEE, 2024.

C127. [IMVIP24b] Mihir Chauhan, Mohammad Abuzar Hashemi, Bina Ramamurthy, Mingchen Gao, **Siwei Lyu**, and Sargur Srihari. Vision-Language Model Based Handwriting Verification. In *Irish Machine Vision and Image Processing*, Limerick, Ireland, 2024.

C126. [IMVIP24a] Mihir Chauhan, Mohammad Abuzar Hashemi, Bina Ramamurthy, Mingchen Gao, **Siwei Lyu**, and Sargur Srihari. Self-Supervised Based Handwriting Verification. In *Irish Machine Vision and Image Processing*, Limerick, Ireland, 2024.

C125. [CVPRW24] Shan Jia, Reilin Lyu, Kangran Zhao, Yize Chen, Zhiyuan Yan, Yan Ju, Chuanbo Hu, Xin Li, Baoyuan Wu, and **Siwei Lyu**. Can ChatGPT Detect DeepFakes? A Study of Using Multimodal Large Language Models for Media Forensics. In *CVPR Workshop on Media Forensics*, Seattle, USA, June 2024.

C124. [ICME24a] Cai Yu, Shan Jia, Xiaomeng Fu, Jin Liu, Jiahe Tian, Xi Wang, Jiao Dai, **Siwei Lyu**, and Jizhong Han. Explicit correlation learning for generalizable cross-modal deepfake detection. In *2024 IEEE International Conference on Multimedia and Expo (ICME)*, pages 1–6, Niagara Falls, Canada, 2024. IEEE.

C123. [ICME24b] Soumyya Kanti Datta, Shan Jia, and **Siwei Lyu**. Exposing Lip-syncing Deepfakes from Mouth Inconsistencies. In *IEEE International Conference on Multimedia and Expo (ICME)*, Niagara Falls, Canada, July 2024.

C122. [ISBI24] Eric Wu, Bin Kong, Xin Wang, Junjie Bai, Yi Lu, Feng Gao, Shaoting Zhang, Kunlin Cao, Qi Song, **Siwei Lyu**, and Youbing Yin. Uncertainty-aware single view volumetric rendering for medical neural radiance fields. In *IEEE International Symposium on Biomedical Imaging (ISBI)*, Athens, Greece, 2024.

C121. [ICASSP24] Cong Zhang, Yuezun Li, Honggang Qi, and **Siwei Lyu**. Enhancing Adversarial Robustness of DNNs via Weight Decorrelation in Training. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Seoul, Korea, 2024 (Acceptance rate: 45% of 5,796 submissions).

C120. [WACV24] Yan Ju, Shu Hu, Shan Jia, George H Chen, and **Siwei Lyu**. Improving fairness in deepfake detection. In *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, pages xxx–xxx, January 2024 (Acceptance rate: 847 out of 2,042 (41%) submissions).

C119. [NeurIPS23-DC] Zhiyuan Yan, Yong Zhang, Xinhang Yuan, **Siwei Lyu**, and Baoyuan Wu. DeepfakeBench: A Comprehensive Benchmark of Deepfake Detection. In *Advances in Neural Information Processing Systems (NeurIPS): Systems Datasets and Benchmarks Track*, 2023.

C118. [MM23] Yuanhao Zhai, Mingzhen Huang, Lu Dong Tianyu Luan, Ifeoma Nwogu, **Siwei Lyu**, David Doermann, and Junsong Yuan. Language-guided Human Motion Synthesis with Atomic Actions. In *ACM Multimedia*, Ottawa, Canada, October 2023. (Acceptance rate: 29% of 9,361 submissions).

C117. [URTC23] Sneha Muppalla, Shan Jia, and **Siwei Lyu**. Integrating audio-visual features for multimodal deepfake detection. In *2023 IEEE MIT Undergraduate Research Technology Conference (URTC)*. IEEE, 2023.

C116. [ECAI23] Xin Wang, Shu Hu, Hui Guo, and **Siwei Lyu**. GAN-generated Faces Detection: A Survey and New Perspectives. In *European Conference on Artificial Intelligence (ECAI)*, Krakaw, Poland, 2023. (Acceptance rate: 23% of 1,631 submissions).

C115. [ACML23] Shu Hu, Xin Wang, and **Siwei Lyu**. Outlier Robust Adversarial Training. In *Asian Conference on Machine Learning (ACML)*, Istanbul, Turkey, November 2023.

C114. [IROS23] Xin Wang, Shu Hu, Bin Zhu, Xi Wu, and **Siwei Lyu**. RMBench: Benchmarking Deep Reinforcement Learning for Robotic Manipulator Control. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Detroit, MI, 2023.

C113. [NIRE23] (as participating team). NTIRE 2023 Challenge on Efficient Super-Resolution: Methods and Results. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*, pages 1921–1959, June 2023.

C112. [CVPRW23a] Shan Jia, Mingzhen Huang, Zhou Zhou, Yan Ju, Jialing Cai, and **Siwei Lyu**. AutoSplice: A Text-prompt Manipulated Image Dataset for Media Forensics. In *CVPR Workshop on Media Forensics*, Vancouver, Canada, 2023.

C111. [CVPRW23b] Chengzhe Sun, Shan Jia, Shuwei Hou, and **Siwei Lyu**. AI-Synthesized Voice Detection Using Neural Vocoder Artifacts. In *CVPR Workshop on Media Forensics*, Vancouver, Canada, 2023.

C110. [CVPRW23c] Hao Chen, Peng Zheng, Xin Wang, Shu Hu, Bin Zhu, Jinrong Hu, Xi Wu, and **Siwei Lyu**. Harnessing the Power of Text-image Contrastive Models for Automatic Detection of Online Misinformation. In *CVPR Workshop on Media Forensics*, Vancouver, Canada, 2023.

C109. [ICME23b] Jiucui Lu, Yuezun Li, Jiran Zhou, Bin Li, and **Siwei Lyu**. Forensics Forest: Multi-scale Hierarchical Cascade Forest for Detecting GAN-generated Faces. In *IEEE International Conference on Multimedia and Expo (ICME)*, Brisbane, Australia, 2023.

C108. [ICME23a] Yuezun Li, Jiran Zhou, and **Siwei Lyu**. Face Poison: Obstructing DeepFakes by Disrupting Face Detection. In *IEEE International Conference on Multimedia and Expo (ICME)*, Brisbane, Australia, 2023.

C107. [ICASSP23] Hui Guo, Xin Wang, and **Siwei Lyu**. Detection of Real-time DeepFakes in Video Conferencing with Active Probing and Corneal Reflection. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Rohdes Island, Greek, 2023.

C106. [UAI22] Zhenhuan Yang, Shu Hu, Yunwen Lei, Kush R. Varshney, **Siwei Lyu**, and Yiming Ying. Differentially private sgda for minimax problems. In *The International Conference on Uncertainty in Artificial Intelligence (UAI)*, Eindhoven, the Netherlands, 2022 (Acceptance rate 240 out of 712 (12.3%) submissions).

C105. [IJCB22] Bo Peng, Wei Wang, Jing Dong, and **Siwei Lyu**. The Second DeepFake Game Competition. In *International Joint Conference on Biometrics (IJCB)*, Abu Dhabi, United Arab Emirates, 2022.

C104. [PRCV22] Bo Peng, **Siwei Lyu**, Wei Wang, and Jing Dong. Counterfactual image enhancement for explanation of face swap deepfakes. In *Chinese Conference on Pattern Recognition and Computer Vision (PRCV)*, Shenzhen, China, 2022.

C103. [ICIP22a] Yan Ju, Shan Jia, Lipeng Ke, Hongfei Xue, Koki Nagano, and **Siwei Lyu**. Fusing Global and Local Features for Generalized AI-synthesized Image Detection. In *IEEE Conference on Image Processing (ICIP)*, Bordeau, France, 2022.

C102. [ICIP22b] Shan Jia, Xin Li, and **Siwei Lyu**. Model attribution of face-swap DeepFake videos. In *IEEE Conference on Image Processing (ICIP)*, Bordeau, France, October 2022.

C101. [ICIP22c] Pu Sun, Yuezun Li, Honggang Qi, and **Siwei Lyu**. Faketracer: Exposing deepfakes with training data contamination. In *IEEE Conference on Image Processing (ICIP)*, Bordeau, France, 2022.

C100. [ICIP22d] Syeda Nyma Ferdous, Xin Li, and **Siwei Lyu**. Uncertainty Aware Multitask Pyramid Vision Transformer For UAV-Based Object Re-Identification. In *IEEE Conference on Image Processing (ICIP)*, Bordeau, France, October 2022.

C99. [MIPR22] Hui Guo, Xin Wang, Ming-Ching Chang, and **Siwei Lyu**. Open-eye: an open platform to study human performance on identifying AI-synthesized faces. In *International Conference on Multimedia Information Processing and Retrieval (MIPR)*, Taipei, Taiwan, 2022.

C98. [CVPRW22] Shu Hu, Chun-Hao Liu, Jayanta Dutta, Ming-Ching Chang, **Siwei Lyu**, and Naveen Ramakrishnan. Pseudoprop: Robust pseudo-label generation for semi-supervised object detection in autonomous driving systems. In *CVPR Workshop on Autonomous Driving*, New Orleans, LA, 2022.

C97. [ICME22] Dizhong Lin, Ying Fu, Xin Wang, Shu Hu, Bin Zhu, Qi Song, Xi Wu, Jilin Zhou, and **Siwei Lyu**. Contrastive class-specific encoding for few-shot object detection. In *IEEE International Conference on Multimedia and Expo (ICME)*, Taipei, Taiwan, 2022. (Acceptance rate 29% of 1,300 submissions).

C96. [ICASSP22a] Ehab AlBadawy, Andrew Gibiansky, Qing He, Jilong Wu, Ming-Ching Chang, and **Siwei Lyu**. VOCBENCH: A Neural Vocoder Benchmark For Speech Synthesis. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Singapore, 2022.

C95. [ICASSP22b] Mingzhen Huang, Shan Jia, and **Siwei Lyu**. Text-Image De-Contextualization Detection Using Vision-Language Models. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Singapore, 2022.

C94. [ICASSP22c] Hui Guo, Shu Hu, Xin Wang, Ming-Ching Chang, and **Siwei Lyu**. Eyes Tell All: Irregular Pupil Shapes Reveal GAN-Generated Faces. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Singapore, 2022.

C93. [BMVC21b] BorShiun Wang, Jun-Wei Hsieh, Ping-Yang Chen, Ming-Ching Chang, Lipeng Ke, and **Siwei Lyu**. Learnable Discrete Wavelet Pooling (LDW-Pooling) for Convolutional Networks. In *British Machine Vision Conference (BMVC)*, virtual, 2021. (Acceptance rate 437 out of 1,206 (36.2%) submissions).

C92. [BMVC21a] Yao-Hui Huang, Jun-Wei Hsieh, Ming-Ching Chang, Lipeng Ke, **Siwei Lyu**, and Arpita Samanta Santra. Learning with multi-teacher and single-student on environment vision transformer for face-spoofing. In *British Machine Vision Conference (BMVC)*, virtual, 2021. (Acceptance rate 437 out of 1,206 (36.2%) submissions).

C91. [AVSS21b] Guanliang Zhao, Abhineet Pandey, Ming-Ching Chang, and **Siwei Lyu**. A video analytic system for rail crossing point protection. In *International Conference on Advanced Video and Signal-Based Surveillance (AVSS)*, virtual, 2021.

C90. [AVSS21a] Shou-Fang Wu, Ming-Ching Chang, **Siwei Lyu**, Cheng-Shih Wong, Abhineet Pandey, and Po-Chyi Su. FlagDetSeg: Multi-nation flag detection and segmentation in the wild. In *International Conference on Advanced Video and Signal-Based Surveillance (AVSS)*, virtual, 2021.

C89. [MLSP21] Ian Pradhan and **Siwei Lyu**. Understanding linear style transfer auto-encoders. In *IEEE Machine Learning for Signal Processing Workshop*, 2021.

C88. [IJCB21b] (as organizer). DFGC 2021: A DeepFake Game Competition. In *International Joint Conference on Biometrics (IJCB)*, Shenzhen, China, 2021.

C87. [IJCB21a] (as participating team). NIR Iris Challenge Evaluation in Non-cooperative Environments: Segmentation and Localization. In *International Joint Conference on Biometrics (IJCB)*, Shenzhen, China, 2021.

C86. [ICIP21a] Quanyu Liao, Yuezun Li, Xin Wang, Bin Kong, Bin Zhu, **Siwei Lyu**, Youbing Yin, Qi Song, and Xi Wu. Imperceptible adversarial examples for fake image detection. In *IEEE Conference on Image Processing (ICIP)*, Anchorage, AK, United States, September 2021. (Acceptance rate 791 out of 1,722 (45.9%) submissions).

C85. [ICIP21b] Anwei Luo, Yingbin Zhou, Xiangui Kang, and **Siwei Lyu**. Face fogery ensemble detection based on segmentation architecture and frequency learning. In *IEEE Conference on Image Processing (ICIP)*, Anchorage, AK, United States, September 2021. (Acceptance rate 791 out of 1,722 (45.9%) submissions).

C84. [SADFE21] Yuezun Li, Cong Zhang, Pu Sun, Lipeng Ke, Yan Ju, Honggang Qi, and **Siwei Lyu**. Deepfake-o-meter: An open platform for deepfake detection. In *International Conference on Systematic Approaches to Digital Forensic Engineering (SADFE)*, 2021.

C83. [ICME21] Quanyu Liao, Xin Wang, Bin Kong, **Siwei Lyu**, Bin Zhu, Youbing Yin, Qi Song, and Xi Wu. Transferable adversarial examples for anchor free object detection. In *IEEE International Conference on Multimedia and Expo (ICME)*, Shenzhen, China, 2021 (Acceptance rate 30% of 1,700 submissions).

C82. [ICASSP21] Shu Hu, Yuezun Li, and **Siwei Lyu**. Exposing GAN-generated faces using inconsistent corneal specular highlights. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Toronto, Canada, 2021.

C81. [AISTATS21] Zhenhuan Yang, Yunwen Lei, **Siwei Lyu**, and Yiming Ying. Stability and differential privacy of stochastic gradient descent for pairwise learning with non-smooth loss. In *The 24th International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2021. (Acceptance rate 455 out of 1,527 (29.8%) submissions).

C80. [WIFS20] Pu Sun, Yuezun Li, Honggang Qi, and **Siwei Lyu**. Landmark breaker: Obstructing deepfake by disturbing landmark extraction. In *IEEE Workshop on Information Forensics and Security (WIFS)*, New York, NY, United States, 2020.

C79. [ACCV20] Yi Wei, Pengchuan Zhang, Wenbo Li, Zhe Gan, **Siwei Lyu**, Ming-Ching Chang, Lei Zhang, and Jianfeng Gao. MagGAN: High-Resolution Face Attribute Editing with Mask-Guided Generative Adversarial Network. In *Asian Conference on Computer Vision (ACCV)*, Kyoto, Japan, 2020. (Acceptance rate).

C78. [INTERSPEECH20] Ehab AlBadawy and **Siwei Lyu**. Voice conversion using speech-to-speech neuro-style transfer. In *Interspeech*, Shanghai, China, October 2020 (Acceptance rate 47%).

C77. [IROS20] Yi Wei, Wenbo Li, Ming-Ching Chang, Hongxia Jin, and **Siwei Lyu**. Explainable and efficient sequential correlation network for 3D single person concurrent activity detection. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Las Vegas, NV, United States, 2020.

C76. [ICIP20] Yuezun Li, Ao Luo, and **Siwei Lyu**. Fast portrait segmentation with highly light-weight network. In *IEEE Conference on Image Processing (ICIP)*, Dubai, UAE, 2020.

C75. [ICMEW20] **Siwei Lyu**. DeepFake detection: Current challenges and next steps. In *International Workshop on Media-Rich Fake News (MedFake) in conjunction with ICME*, London, UK, 2020.

C74. [IJCNN20] Quanyu Liao, Xin Wang, Bin Kong, **Siwei Lyu**, Youbing Yin, Qi Song, and Xi Wu. Fast local attack: Generating local adversarial examples for object detectors. In *International Joint Conference on Neural Networks (IJCNN)*, Glasgow, UK, 2020.

C73. [MM20] Yunqiang Cai, Dawei Du, Libo Zhang, Longyin Wen, Weiqiang Wang, Yanjun Wu, and **Siwei Lyu**. Guided attention network for object detection and counting on drones. In *ACM Multimedia*, Seattle, WA, United States, October 2020. (Acceptance rate 472 out of 1,698 (27.8%) submissions).

C72. [AVSS19] Yuezun Li, Longyin Wen, Ming-Ching Chang, and **Siwei Lyu**. Graph-to-graph energy minimization for video object segmentation. In *International Conference on Advanced Video and Signal-Based Surveillance (AVSS)*, Taipei, Taiwan, 2019.

C71. [BMVC19] Yuezun Li, Ming-Ching Chang, Xiao Bian, and **Siwei Lyu**. Exploring the vulnerability of single shot module in object detectors via imperceptible background patches. In *British Machine Vision Conference (BMVC)*, Cadiff, UK, 2019.

C70. [MICCAI19] Bin Kong, Xin Wang, Junping Du, Yi Lu, Kunlin Cao, Qi Song, Shaoting Zhang, **Siwei Lyu**, and Youbing Yin. A multi-modal network for cardiomyopathy death risk prediction with CMR images and clinical information. In *the 22nd International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Shenzhen, China, 2019.

C69. [CVPRW19a] Ehab AlBadawy, **Siwei Lyu**, and Hany Farid. Detecting ai-synthesized speech using bispectral analysis. In *Workshop on Media Forensics (in conjunction with CVPR)*, Long Beach, CA, United States, 2019.

C68. [CVPRW19b] Yuezun Li and **Siwei Lyu**. Exposing deepfake videos by detecting face warping artifacts. In *Workshop on Media Forensics (in conjunction with CVPR)*, Long Beach, CA, United States, 2019.

C67. [IHMMSec19a] Xin Yang, Yuezun Li, Honggang Qi, and **Siwei Lyu**. Exposing GAN-synthesized faces using landmark locations. In *International Workshop on Information Hiding and Multimedia Security*, Paris, France, 2019 (Acceptance rate 37% of 62 submissions).

C66. [IHMMSec19b] Yuezun Li and **Siwei Lyu**. De-identification without losing faces. In *International Workshop on Information Hiding and Multimedia Security*, Paris, France, 2019 (Acceptance rate 37% of 62 submissions).

C65. [ICASSP19b] Shuchen Weng, Wenbo Li, Yi Zhang, and **Siwei Lyu**. Dual-stream cnn for structured time series classification. In *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Bristol, United Kingdom, 2019 (Acceptance rate 46.5%).

C64. [ICASSP19a] Xin Yang, Yuezun Li, and **Siwei Lyu**. Exposing deep fakes using inconsistent head poses. In *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Bristol, United Kingdom, 2019 (Acceptance rate 46.5%).

C63. [ISBI19] Eric Wu, Bin Kong, Xin Wang, Junjie Bai, Yi Lu, Feng Gao, Shaoting Zhang, Kunlin Cao, Qi Song, **Siwei Lyu**, and Youbing Yin. Residual attention based network for hand bone age assessment. In *IEEE International Symposium on Biomedical Imaging (ISBI)*, Venice, Italy, 2019.

C62. [MM19] Congcong Li, Dawei Du, Libo Zhang, Tiejian Luo, Yanjun Wu, Qi Tian, Longyin Wen, and **Siwei Lyu**. Data priming network for automatic check-out. In *ACM Multimedia*, Nice, France, 2019. (Acceptance rate 248 out of 936 (26.5%) submissions).

C61. [IROS18] Shuai Li, **Siwei Lyu**, and Jeff Trinkle. Efficient state estimation with constrained Rao-Blackwellized particle filter. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Madrid, Spain, 2018. (Acceptance rate 47% of 2,693 submissions).

C60. [AVSS18] Yuezun Li, Xiao Bian, Ming-Ching Chang, and **Siwei Lyu**. Pixel offset regression (POR) for single-shot instance segmentation. In *International Conference on Advanced Video and Signal-Based Surveillance (AVSS)*, Auckland, New Zealand, November 2018.

C59. [WIFS18] Yuezun Li, Ming-Ching Chang, and **Siwei Lyu**. In Ictu Oculi: Exposing AI Created Fake Videos by Detecting Eye Blinking. In *IEEE Workshop on Information Forensics and Security (WIFS)*, Hong Kong, December 2018 (Acceptance rate 32% of 105 submissions).

C58. [ICIP18] Lipeng Ke, Ming-Ching Chang, Honggang Qi, and **Siwei Lyu**. Multi-scale supervised network for human pose estimation. In *IEEE Conference on Image Processing (ICIP)*, Athens, Greece, 2018.

C57. [AIC18a] Milind Naphade, et.al., and **Siwei Lyu**. The 2018 NVIDIA AI City Challenge. In *IEEE Workshop on AI City Challenge (in conjunction with CVPR)*, Salt Lake City, UT, United States, 2018.

C56. [AIC18b] Ming-Ching Chang, Yi Wei, Nenghui Song, and **Siwei Lyu**. Video analytics in smart transportation for the AIC'18 challenge. In *IEEE Workshop on AI City Challenge (in conjunction with CVPR)*, Salt Lake City, UT, United States, 2018.

C55. [ICPR18b] Yi Wei, Ming-Ching Chang, Yiming Ying, Ser Nam Lim, and **Siwei Lyu**. Explain blackbox image classifications using superpixel-based interpretation. In *International Conference on Pattern Recognition (ICPR)*, Beijing, China, 2018.

C54. [ICPR18a] Cong Zhang, Dawei Du, Lipeng Ke, Honggang Qi, and **Siwei Lyu**. Global contrast enhancement detection via deep multi-path network. In *International Conference on Pattern Recognition (ICPR)*, Beijing, China, 2018.

C53. [ACCV18] Wenbo Li, Longyin Wen, Xiao Bian, and **Siwei Lyu**. Evolvement constrained adversarial learning for video style transfer. In *Asian Conference on Computer Vision (ACCV)*, Perth, Australia, 2018. (Acceptance rate 31% of 600).

C52. [BMVC18] Yuezun Li, Daniel Tian, Ming-Ching Chang, Xiao Bian, and **Siwei Lyu**. Universal adversarial perturbation on deep proposal-based models. In *British Machine Vision Conference (BMVC)*, Bristol, United Kingdom, 2018. (Acceptance rate 23% of 1,120).

C51. [UAI18] **Siwei Lyu** and Yiming Ying. A univariate bound of area under ROC. In *The International Conference on Uncertainty in Artificial Intelligence (UAI)*, Monterey, CA, United States, 2018. (Acceptance rate 30% of 337 submissions).

C50. [AVSS17] **Siwei Lyu** and et.al. AVSS 2017 challenge on advanced traffic monitoring. In *International Conference on Advanced Video and Signal-Based Surveillance (AVSS)*, Lecce, Italy, 2017.

C49. [AIC17b] Ming-Ching Chang, Yi Wei, Nenghui Song, Lipeng Ke, and **Siwei Lyu**. Traffic analysis based on object detection and vehicle tracking. In *2017 IEEE AI City Challenge*, San Jose, CA, United States, 2017. IEEE.

C48. [AIC17a] Milind Naphade, David C. Anastasiu, Anuj Sharma, Vamsi Jagrlamudi, Hyeron Jeon, Kaikai Liu, Ming-Ching Chang, **Siwei Lyu**, and Zeyu Gao. The NVIDIA AI City Challenge. In *2017 IEEE SmartWorld, Ubiquitous Intelligence & Computing, Advanced & Trusted Computed, Scalable Computing & Communications, Cloud & Big Data Computing, Internet of People and Smart City Innovation (SmartWorld/SCALCOM/UIC/ATC/CBDCom/IOP/SCI)*, SmartWorld'17, San Jose, NJ, United States, United States, 2017. IEEE.

C47. [VOT17] (as participating team). The visual object tracking VOT2017 challenge results. In *ICCV Workshop on Visual Object Tracking Challenge*, Venice, Italy, 2017.

C46. [ICIP17] Shengkun Li, Dawei Du, Longyin Wen, Ming-Ching Chang, and **Siwei Lyu**. Hybrid structure hypergraph for online deformable object tracking. In *IEEE Conference on Image Processing (ICIP)*, Beijing, China, 2017

C45. [IJCNN17] Andrew Pulver and **Siwei Lyu**. LSTM with working memory. In *International Joint Conference on Neural Networks (IJCNN)*, Anchorage, AK, United States, 2017.

C44. [HUMANOID16] Shuai Li, **Siwei Lyu**, and Jeff Trinkle. Contact aware robotics manipulation. In *Work Shop on Tactile Sensing for Manipulation: New progress and Challenges (in conjucntion with IEEE RAS-Humanoids)*, Cancun, Mexico, 2016.

C43. [WIFS16] Honggang Qi, Andrew Pulver, and **Siwei Lyu**. Using 3D face model for forensic analysis of lighting environment. In *IEEE Workshop on Information Forensics and Security (WIFS)*, Abu Dhabi, United Arab Emirates, 2016 (Acceptance rate 32% out of 108 submissions).

C42. [AVSS16] Yueming Yang, Ming-Ching Chang, Longyin Wen, Peter Tu, Honggang Qi, and **Siwei Lyu**. Efficient large-scale photometric reconstruction using divide-recon-fuse 3D structure from motion. In

International Conference on Advanced Video and Signal-Based Surveillance (AVSS), Colorado Springs, CO, United States, 2016.

C41. [AISTATS16] Martin Boissier, Yiming Ying, **Siwei Lyu**, and Dingxuan Zhou. Fast convergence of online pairwise learning algorithms. In *The 19th International Conference on Artificial Intelligence and Statistics (AISTATS)*, Cadiz, Spain, 2016 (Acceptance rate 31% of 537 submissions).

C40. [IROS15] Shuai Li, **Siwei Lyu**, Jeff Trinkle, and Wolfart Burgard. An evaluation of particle filters for contact-slam problems. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Hamburg, Germany, 2015 (Acceptance rate 46% of 2134 submissions).

C39. [OPT15] Martin Boissier, Yiming Ying, **Siwei Lyu**, and Dingxuan Zhou. Fast convergence of online pairwise learning algorithms. In *NIPS Workshop on Optimization for Machine Learning*, Montreal, QC, Canada, 2015.

C38. [VOTIR15] (as participating team). The visual object tracking VOTITR2015 challenge results. In *ICCV Workshop on Visual Object Tracking Challenge*, Santiago, Chile, 2015.

C37. [VOT15] (as participating team). The visual object tracking VOT2015 challenge results. In *ICCV Workshop on Visual Object Tracking Challenge*, Santiago, Chile, 2015.

C36. [ICIP15] Yueming Yang, Ming-Ching Chang, and **Siwei Lyu**. Seeing as it happens: Real time 3d video event visualization. In *IEEE Conference on Image Processing (ICIP)*, Quebec, Canada, 2015.

C35. [ASIA15] Andrew Pulver, Ming-Ching Chang, and **Siwei Lyu**. Shot segmentation and grouping for ptz camera videos. In *Annual Symposium on Information Assurance (ASIA)*, Albany, NY, United States, 2015.

C34. [SPIE15] Amanda Danko and **Siwei Lyu**. Fused methods for visual saliency estimation. In *SPIE Symposium on Electronic Imaging*, San Jose, CA, United States, 2015.

C33. [ICCE15] Amanda Danko and **Siwei Lyu**. Better together: Fusing visual saliency methods for retrieving perceptually similar images. In *IEEE Conference on Consumer Electronics (ICCE)*, Las Vegas, NV, United States, 2015.

C32. [BMVC15] Ming-Ching Chang, Honggang Qi, Xin Wang, Hong Cheng, and **Siwei Lyu**. Fast online upper body pose estimation from video. In *British Machine Vision Conference (BMVC)*, Swansea, United Kingdom, 2015 (Acceptance rate 33% of 553 submissions).

C31. [FG15] Yelin Kim, Jixu Chen, Ming-Ching Chang, Xin Wang, Emily M. Provost, and **Siwei Lyu**. Joint event localization and classification of human action videos with event transitions. In *IEEE International Conference on Automatic Face and Gesture Recognition (FG)*, Ljubljana, Slovenia, 2015. (**Oral**, Acceptance rate 12% of 221 submissions)

C30. [ICRA15] Shuai Li, **Siwei Lyu**, and Jeff Trinkle. State estimation for dynamic systems with intermittent contact. In *IEEE Conference on Robotics and Automation (ICRA)*, Seattle, WA, United States, 2015. (**Oral**, Acceptance rate 41% of 2275 submissions)

C29. [RSSW14] Shuai Li, **Siwei Lyu**, Jeff Trinkle, and Wolfart Burgard. An evaluation of particle filters for contact-SLAM problems. In *RSS Workshop on Information-based Grasp and Manipulation Planning*, Berkeley, CA, United States, 2014.

C28. [ICIP14a] Xing Mei, Baogang Hu, and **Siwei Lyu**. Non-blind image restoration with symmetric generalized Pareto priors. In *IEEE Conference on Image Processing (ICIP)*, Paris, France, 2014.

C27. [ICIP14b] Xing Zhang and **Siwei Lyu**. Blind estimation of pixel brightness transform. In *IEEE Conference on Image Processing (ICIP)*, Paris, France, 2014.

C26. [MANDM14a] Eric Lifshin, **Siwei Lyu**, Yudal P. Kandel, and Richard L. Moore. The use of regularized least squares minimization for the deconvolution of SEM images. In *Microscopy & Microanalysis*, Hartford, CT, United States, 2014.

C25. [MANDM14b] Eric Lifshin, Yudal P. Kandel, Richard L. Moore, and **Siwei Lyu**. Improved SEM image resolution through the use of image restoration techniques. In *Microscopy & Microanalysis*, Hartford, CT, United States, 2014. (invited paper).

C24. [ICLS14] Weiyi Sun, Jianwei Zhang, Hui Jin, and **Siwei Lyu**. Analyzing online knowledge building discourse using probabilistic topic models. In *International Conference of the Learning Sciences (ICLS)*, Boulder, CO, United States, 2014. (Acceptance rate 30% of 749 submissions).

C23. [ICANN14] Xing Zhang and **Siwei Lyu**. Variational EM learning of deep stack Boltzmann networks with deep boltzmann machines. In *International Conference on Artificial Neural Networks (ICANN)*, Hamburg, Germany, 2014.

C22. [ICRA13] Li Zhang, **Siwei Lyu**, and Jeff Trinkle. A dynamic Bayesian approach to simultaneous estimation and filtering in grasp acquisition. In *IEEE Conference on Robotics and Automation (ICRA)*, Karlsruhe, Germany, 2013. (**Oral**, Acceptance rate 39% of 2265 submissions)

C21. [NIPSW13] Weiyi Sun, Jianwei Zhang, Hui Jin, and **Siwei Lyu**. Probabilistic topic analysis of online knowledge building discourse. In *NIPS Workshop on Data Driven Education*, South Lake Tahoe, CA, United States, 2013.

C20. [CHINASIP13a] **Siwei Lyu**. An upper-bound on second-order dependency. In *IEEE International Conference and China Forum on Signal and Information Processing (ChinaSIP)*, Beijing, China, July 2013.

C19. [CHINASIP13b] **Siwei Lyu**. Bayesian supervised learning with non-Gaussian latent variables. In *IEEE International Conference and China Forum on Signal and Information Processing (ChinaSIP)*, Beijing, China, July 2013

C18. [ICASSP12] Xunyu Pan, Xing Zhang, and **Siwei Lyu**. Detecting splicing in digital audios using local noise level estimation. In *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Kyoto, Japan, 2012.

C17. [SPIE12] Xunyu Pan, Xing Zhang, and **Siwei Lyu**. Blind local noise estimation for medical images reconstructed from rapid acquisition. In *SPIE Symposium on Medical Imaging*, San Diego, CA, United States, 2012.

C16. [ACCV12] Jixu Chen, Xiaoming Liu, and **Siwei Lyu**. Boosting with side information. In *Asian Conference on Computer Vision (ACCV)*, Daegu, South Korea, 2012. (Acceptance rate 27%)

C15. [ICCP12] Xunyu Pan, Xing Zhang, and **Siwei Lyu**. Exposing image splicing with inconsistent local noise variances. In *IEEE International Conference on Computational Photography*, Seattle, WA, United States, 2012. (Acceptance rate 20% of 120 submissions)

C14. [MMSEC11] Xunyu Pan, Xing Zhang, and **Siwei Lyu**. Exposing image forgery with blind noise estimation. In *ACM Workshop on Multimedia and Security (MM&Sec)*, Niagara Falls, NY, United States, 2011.

C13. [MMSEC10] **Siwei Lyu**. Estimating vignetting function from a single image for image authentication. In *ACM Workshop on Multimedia and Security (MM&Sec)*, Rome, Italy, 2010.

C12. [ICIP10] **Siwei Lyu**. Single image vignetting correction with natural image statistics in derivative domains. In *IEEE Conference on Image Processing (ICIP)*, Hong Kong, September 2010.

C11. [ICASSP10b] Xunyu Pan and **Siwei Lyu**. Detecting image region duplication using SIFT features. In *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Dallas, United States, United States, 2010.

C10. [ICASSP10a] **Siwei Lyu**. Nonnegative matrix factorization with matrix exponentiation. In *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Dallas, United States, United States, 2010.

C9. [UAI09] **Siwei Lyu**. Interpretation and generalization of score matching. In *The International Conference on Uncertainty in Artificial Intelligence (UAI)*, Montreal, QC, Canada, June 2009. (**Oral**, Acceptance rate 12%)

C8. [SPIE07] **Siwei Lyu** and Eero P. Simoncelli. Statistically and perceptually motivated nonlinear image representation. In *IS&T/SPIE 19th Annual Symposium of Electronic Imaging*, San Jose, CA, United States, 2007 (invited paper).

C7. [ECML05] **Siwei Lyu**. Kernels for unordered sets: the Gaussian mixture approach. In *European Conference on Machine Learning (ECML)*, Porto, Portugal, 2005. (**Oral**, Acceptance rate 10%)

C6. [ARTMATH05] **Siwei Lyu**, Dan Rockmore, and Hany Farid. Wavelet analysis for art authentication. In *Art+Math=X*, Boulder, CO, United States, 2005.

C5. [SPIE05] Micah Kimo Johnson, **Siwei Lyu**, and Hany Farid. Steganalysis of recorded speech. In *SPIE Symposium on Electronic Imaging*, San Jose, CA, United States, 2005.

C4. [MM05] **Siwei Lyu**. Automatic image orientation determination with natural image statistics. In *ACM Multimedia*, Singapore, 2005. (Acceptance rate 32%)

C3. [SPIE04] **Siwei Lyu** and Hany Farid. Steganalysis using color wavelet statistics and one-class support vector machines. In *SPIE Symposium on Electronic Imaging*, San Jose, CA, United States, 2004.

C2. [CVPRW03] Hany Farid and **Siwei Lyu**. Higher-order wavelet statistics and their application to digital forensics. In *CVPR Workshop on Statistical Analysis in Computer Vision*, Madison, Wisconsin, United States, 2003.

C1. [IH02] **Siwei Lyu** and Hany Farid. Detecting hidden messages using higher-order statistics and support vector machines. In *International Workshop on Information Hiding*, Noordwijkerhout, Netherlands, 2002. (Acceptance rate 24%)

INVITED TALKS

T1. [AFF25] Keynote. *DeepFakes: the Phantom of Reality*. Adirondack Film Festival, Lake Placid, NY, October 2025.

T2. [3D-Sec25] Keynote. *Gauging DeepFake Detection in the Real World*. Workshop on Deepfake Detection and Security (3D-Sec), Taipei, Taiwan, Taiwan, October 2025.

T3. [AVSS25] Keynote. *Gauging DeepFake Detection in the Real World*. International Conference on Advanced Video and Signal-Based Systems (AVSS), Tainan, Taiwan, August 2025.

T4. [NIST23] Keynote. *Generative AI and Synthetic Media*. TrecVid OpenMFC Workshop from National Institute of Standard and Technology (NIST), Washington, DC, November 2023.

T5. [UBAlumni23] Invited. *Center for Information Integrity*. UB Alumni Association Scholar on the Road, , New York, NY and Washington, DC, April 2023.

T6. [DRDC23] Invited. *Generative AI and Synthetic Media*. Defence Research and Development Canada, Ottawa, Canada, May 2023.

T7. [DOE23] Invited. *Generative AI and Synthetic Media*. US Department of Energy AI Forum, Washington, DC, June 2023.

T8. [EU22] Keynote. *Fighting DeepFakes with AI Technology*. Webinar on Forensic AI in e-Evidence in the European Union, virtual, November, 05, 2022.

T9. [Drexel22] Invited. *Seeing is not believing: Media manipulation and forensics*. Workshop on Picturing Truth: Law, Truth, and Visual Images, Thomas R. Kline School of Law, Drexel University, March 22, 2022.

T10. [SSDL21] Keynote. *Fighting AI synthesized fake media*. International Workshop on Safety and Security of Deep Learning (SSDL) in conjunction with IJCAI, Shenzhen, China, August 26, 2021.

T11. [IJCB21] Keynote. *Fighting AI synthesized fake media*. International Joint Conference on Biometrics (IJCB), Shenzhen, China, August 04, 2021.

T12. [WMF21] Keynote. *Detecting GAN synthesized faces using inconsistent corneal reflections*. CVPR Workshop on Multimedia Forensics, virtual, June 18, 2021.

T13. [ICASSP21] Tutorial. *DeepFake Generation and Detection*. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), virtual, June 8, 2021.

T14. [SADFE21] Keynote. *Fighting AI synthesized fake media*. International Conference on Systematic Approaches to Digital Forensic Engineering (SADFE), virtual, May 27, 2021.

T15. [AOC21] Invited. *Fighting AI synthesized fake media*. Association of Old Crows, virtual, Jan 20, 2021.

T16. [GLSD20] Keynote. *Fighting AI synthesized fake media*. Great Lake Security Day, virtual, November, 05, 2020.

2019   *DeepFake the Menace*, University of Buffalo, CSE Department, November 05.

2018   *Seeing Is Deceiving: Fighting Fake Media with Algorithms*, Computer Science Department, Yale University, New Haven, CT, November 13.

2018   *DeepFake the Menace*, MIT/Harvard AI Research Center, MIT, Boston, MA, September 9.

2018   *Digital Media Forensics*, Institute of Computer Science and Technology, Peking University, Beijing, China, July 16.

2018   *Detecting DeepFake Videos*, Fake News Horror Show, New York City Media Center, New York, NY, June 6.

2017   *The UA-DETRACT Challenge*, IEEE AVSS IS4T Workshop, Lecce, Italy, August 29.

2016   *Multi-Object Tracking with Hyper-graphs*, Shenyang Institute of Automation, Chinese Academy of Sciences, Shenyang, China, July 7.

2016   *Digital Media Forensics*, School of Computer Science, Tianjin University, Tianjin, China, June 16.

2016   *Image Restoration with Pixel Priors*, School of Computer and Information Science, Tianjin Normal University, Tianjin, China, June 5.

2016   *I Know What You Did in Your Last Photoshop Session: Digital Image Forensics*, Computer Science and Engineering Department, Michigan State University, East Lansing, MI, February 5.

2015   *Multi-Object Tracking with Hyper-graphs*, School of Automation, University of Electronic Science and Technology of China, Chengdu, China, July 14.

2014   *Digital Image Forensics*, Binhai College, Nankai University, Tianjin, China, December 14.

2014   *I Know What You Did in Your Last Photoshop Session: Digital Image Forensics*, Kitware Inc., Clifton Park, NY, October 12.

2013   *Detecting Region Splicing with Local Noise Estimation*, National Laboratory of Pattern Recognition, Beijing, China, July 3.

2013   *Detecting Region Splicing with Local Noise Estimation*, College of Information and Computation, Peking University, Beijing, China, June 28.

2013   *Detecting Region Splicing with Local Noise Estimation*, Computer Science Department, Nankai University, Tianjin, China, June 26.

2012   *Modeling Natural Image Statistics*, Munsell Color Science Laboratory, Rochester Institute of Technology, Rochester, NY, January 31.

2012   *Exposing Region Duplication with Image Feature Matching*, Computer Science Department, Union College, Schenectady, NY, January 15.

2011   *Unifying Non-Maximum Likelihood Learning Algorithms with KL Contraction*, Computer Science Department, Rensselaer Polytechnic Institute, Troy, NY, October 11.

2011   *Dependency Reduction in Natural Images with Divisive Normalization*, Redwood Center for Neural Sciences, UC Berkeley, January 29.

2009   *Radial Gaussianization and Natural Image Statistics*, IBM T.J. Watson Research Center, Hawthorn, NY, November 3.

2009	*Radial Gaussianization and Natural Image Statistics*, GE Global Research Center, Niskayuna, NY, October 16.
2009	*Modeling Natural Image Statistics*, Computer Science Department, Temple University, Philadelphia, PA, April 10.
2009	*Modeling Natural Image Statistics*, GRASP Lab, University of Pennsylvania, Philadelphia, PA, April 9.
2008	*Modeling Natural Image Statistics*, Electronic and Computer Engineering Department, Rensselaer Polytechnic Institute, Troy, NY, October 11.
2008	*Natural Image Statistics for Digital Image Forensics*, Google Research Lab, New York, NY, April 10.
2007	*Natural Image Statistics for Digital Image Forensics*, Computer Science Department, Brooklyn Polytechnic University (now NYU Tanden School of Engineering), November 15.
2007	*Divisive Normalization for Image Processing*, Computer Science Department, Columbia University, New York, NY, October 10.
2007	*Modeling Natural Image Statistics*, Siemens Corporate Research, Princeton, NJ, May 7.
2007	*Modeling Natural Image Statistics*, Computer Science Department, University at Albany, SUNY, April 30.
2007	*Modeling Natural Image Statistics*, Computer Science Department, Brown University, February 17.
2005	*Natural Image Statistics for Digital Image Forensics*, Center for Neural Sciences, New York University, New York, NY, February 7
2005	*Natural Image Statistics for Digital Image Forensics*, Computer Science and AI Lab, MIT, Boston, MA, January 18.

PROFESSIONAL SERVICE

Professional Service	Associate Editor of IEEE Transactions on Biometrics (2022 - 2025), IEEE Transactions on Multimedia (2022-2024), International Journal of Machine Intelligence Research (2020 - 2023), Journal of Imaging (2020 - 2022), Pattern Recognition (2020 - 2024), IEEE Transactions on Information Forensics and Security (2016-2020); Member of IEEE SPS Information Forensics and Security Technical Committee (2017-2020); Member of IEEE AVSS Steering Committee (2017 - 2020); Academic Advisor for FaceBook DeepFake Detection Challenge (2019-2020).
Chairperson	the Scientific & Technical Review Panels on Image Authenticity for the Organization of Scientific Area Committees (OSAC) for Forensic Science (2022)
Conference Service	Area Chair, Association of Advancement in Artificial Intelligence (AAAI) Conference, 2025; General Chair, IEEE Conference on Advances in Video and Signal based Surveillance (2024); Local Chair, International Conference on Multimedia and Expo (2024); Special Session Chair, IEEE Joint Conference on Biometrics (2024); Sponsorship Chair, IEEE International Workshop on Information Forensics and Security (2020); Program Chair, International Conference on Information Hiding and Multimedia Security (2019); Publicity Chair, IEEE Conference on Advances in Video and Signal based Surveillance (2019); Publication Chair, IEEE NVIDIA Workshop AI City Challenge (2018); Advisory Committee, ECCV Workshop on UAV Surveillance (2018); Area Chair, IEEE International Conference on Image Processing (2017); Challenge Co-Chair, IEEE Conference on Advances in Video and Signal based Surveillance (2017). Co-Chair, special session on *Digital Media Forensics* in the First IEEE ChinaSIP Conference (2013).

Proposal Reviewer	Proposal review panelist for the National Science Foundation (2009, 2010, 2012, 2013, 2014, 2015); Proposal reviewer for The European Research Consortium for Informatics and Mathematics (2011). Proposal reviewer for US-Isreal Bilateral Research Collaboration Project (2019).
Other services	Academic Advisor, The Global Challenge of DeepFake Detection (2021).

PATENTS

T1. Method and System for Separating Text and Drawings in Digital Ink. U.S. Patent 7298903 (B2), 2007

T2. Method and System for Representing and Displaying Digital Ink. U.S. Patent 7450125 (B2), 2008, U.S. Patent 7057615 (B2), 2006, and E.U. Patent EP1271407, 2003

T3. Computer Readable Medium for Expressing and Displaying Digital Ink and Computer System. Japan Patent JP2003141100, 2005

T4. Systems and Methods for Analyzing Time Series Data Based on Event Transitions. U.S. Patent 9984154, 2018.

COURSES TAUGHT

Undergraduate Courses

Introduction to Data Mining	Fall '08, '09, '10, '11
Introduction to Digital Image Forensics	Spring '09, '10, '11, '12, '13
Introduction to Computer Vision	Spring '10, Fall '10
Introduction to Data Analytics	Fall '12, '13, '14, '16
Introduction to Machine Learning	Fall '10, Spring '12, '14, '16, '17, '18, '19, '20
Ethics in Computing	Spring '20

Graduate Courses

Advanced Data Mining	Fall '08, '09, '10, '11
Advanced Digital Image Forensics	Spring '09, '10, '11, '12, '13, '14, '19, '20, '21
Advanced Computer Vision	Spring '10,
Advanced Machine Learning	Fall '10, Spring '12, '14, '16, '17, '18, '19

ADVISEMENT

Post-docs Advised

- Dr. Xing Mei, Chinese Academy of Sciences, 2013 – 2015
  First job: SnapChat Inc.
  Current job: ByteDance, Inc.

- Dr. Longyin Wen, Chinese Academy of Sciences, 2015 – 2016
  First job: Research Scientist, GE Global Research Center.
  Current job: ByteDance, Inc.

- Dr. Dawei Du, Chinese Academy of Sciences, 2018 – 2020
  First job: Kitware Inc.

- Dr. Feng Ding, Stevens Institute of Technology, 2019 – 2020
  First job: Huazhong University of Science and Technology, Wuhan, China.

- Dr. Yuezun Li, SUNY Albany, 2020 – 2021
  First job: Ocean University of China, Qingdao, China.

- Dr. Shan Jia, Wuhan University, 2021 – 2024
  First job: YouTube/Google, Sunnyville, CA.

Graduated Students Advised

- Xunyu Pan, Ph.D. in Computer Science, SUNY Albany, 2011
  Dissertation: *Local Statistical Features For Digital Image Forensics*
  SUNY Albany **Distinguished Dissertation Award**, SUNY Albany, 2012
  First job: Assistant Professor, Computer Science Department, Frostburg State University
  Current job: tenured Associate Professor, Computer Science Department, Frostburg State University

- Xing Zhang, M.S. in Computer Science, SUNY Albany, 2012
  First job: Novellus Inc.

- Jianting Wen, M.S. in Computer Science, SUNY Albany, 2012
  First job: Facebook.

- Amanda Danko, Ph.D. in Computer Science, SUNY Albany, 2015
  Dissertation: *Visual Saliency Estimation: A Cognitive Pre-Attentive and Context-Aware Approach*
  SUNY Albany **Distinguished Dissertation Award**, 2015
  First job: Research Scientist at USAA Research, San Antonio, TX.
  Current job: Assistant Professor of Computer Science and Engineering at University of Texas, San Antonio, TX.

- Xin Wang, Ph.D. in Computer Science, SUNY Albany graduated November, 2015
  Dissertation: *Topic Analysis And Application Using Nonnegative Matrix Factorizations (NMF)*
  First job: Research Scientist CuraCloud Inc., Seattle, WA

- Yueming Yang, Ph.D. in Computer Science, SUNY Albany, 2015
  Dissertation: *Efficient Large-Scale Photometric Reconstruction*
  First job: Research Assistant Professor, College of Mount Holyoke
  Current job: Assistant Professor, Baldwin Wallace University.

- Wenbo Li, Ph.D. in Computer Science, SUNY Albany, 2019
  Dissertation: *Skeleton-based human activity recognition*
  First job: Samsung Research USA

- Yuezun Li, Ph.D. in Computer Science, SUNY Albany, 2020
  Dissertation: *Detection and counter-measures to AI-generated Fake Media*
  First job: Post-doc, University at Buffalo, State University of New York.
  Current job: Assistant Professor, Ocean University of China, Qingdao, China.

- Ehab Albadawy, Ph.D. in Computer Science, SUNY Albany, 2022.
  Dissertation: AI-synthesized speech: Generation and Detection
  First job: Amazon.

- Lipeng Ke, Ph.D. in Computer Science, SUNY Buffalo, 2022.
  Dissertation: Semantic Text-to-Face Generative Adversarial Network
  First job: Amazon.

- Shu Hu, Ph.D. in Computer Science, SUNY Buffalo, 2022.
  Dissertation: Rank-based Losses in Machine Learning and deep learning
  First job: Post-doc at Carnegie Mellon University.
  Current job: Assistant Professor, Purdue University.

- Mihir Chauhan, Ph.D. in Computer Science, SUNY Buffalo, 2024.
  Dissertation: Self-Supervised & Explanation based Handwriting Verification
  First job: Amazon.

- Yan Ju, Ph.D. in Computer Science, SUNY Buffalo, 2025.
  Dissertation: Towards General And Robust AI-Generated Content Detection.
  First job: Walmart.

Current Students

- Mingzhen Huang, Ph.D. student in Computer Science, SUNY Buffalo.

- Chengzhe Sun, Ph.D. student in Computer Science, SUNY Buffalo.

- Soumyya Datta, Ph.D. student in Computer Science, SUNY Buffalo.

- Yu Cai, Ph.D. student in Computer Science, SUNY Buffalo.

- Zhaofeng Si, Ph.D. student in Computer Science, SUNY Buffalo.

External Ph.D. Committee Member

- Zuoguan Wang, Ph.D. in Electrical, Computer and System Engineering, RPI, graduated 2012.
- Jan Kovosky, Ph.D. in Electrical and Computer Engineering, SUNY Binghamton, graduated 2012.
- Li Zhang, Ph.D. student in Computer Science, RPI, graduated 2013.
- Weiyi Sun, Ph.D. student in Informatics, SUNY Albany, graduated 2014.
- Vojetech Holub, Ph.D. in Electrical and Computer Engineering, SUNY Binghamton, graduated 2014.
- Shuai Li, Ph.D. student in Computer Science, RPI, graduated 2016.
- Shengkun Li, Ph.D. in Computer Science, SUNY Albany, 2020.
- Ali Khodabakhsh, Ph.D. in Information Security and Communication Technology, Norwegian University of Science and Technology (NTNU), graduated 2021.
- Yi Wei, Ph.D. in Computer Science, SUNY Albany, graduated 2021.

Undergraduate Research Advisor

- Ian Pradhan, B.S. in Computer Science, class of 2020, SUNY Albany

- Andrew Pulver, B.S. in Computer Science, class of 2016, SUNY Albany

- Jeremy Birnbaum, Honor Student, Class of 2010, SUNY Albany

- Adam Polanski, Honor Student, Class of 2012, SUNY Albany

Visiting Scholars and Students

- Baoyuan Wu, Chinese Academy of Sciences, 2013 - 2014.
- Honggang Qi, University of Chinese Academy of Sciences, 2017 - 2018.
- Yanbo Fan, Chinese Academy of Sciences, 2018 - 2019.
- Ao Luo, University of Electronic Science and Technology of China, 2019 - 2020.

UNIVERSITY SERVICES

Department Services – SUNY Buffalo

- Fall'22 – Spring '23, CSE Strategic Planning Committee.
- Fall'20 – Spring '22, CSE Graduate Admission Committee.
- Fall '20 – Spring '21, CSE EIP Recruiting Committee.
- Fall '20 – Spring '21, CSE Tenure-track Faculty Recruiting Committee.

Department Services – SUNY Albany

- Fall '17 – Spring '20, Chair of CS Department Graduate Admission Committee.
- Fall '11 – Fall '14, Fall '18 – Spring '20, Chair of CS Department Colloquia Series.
- Fall '15 – Spring '16, Chair of Faculty Research Committee for Computer and Electronic Engineering Department for College of Engineering and Applied Science.

- Spring '14, Chair of Analytical Exams in Artificial Intelligence.
- Fall '13, "Evergreen" Teaching Faculty Search Committee for Informatics Department.
- Fall '13 – Spring '14, Provost's Team for Network Engineering Program.
- Fall '13 – Spring '14 Curriculum Committee of College of Computing and Information.
- Fall '12, '13 and '14, Faculty Search Committee.
- Fall '13, FRAP Committee.
- Fall '09 – Spring '14, Undergraduate Advisor.
- Fall '10 – Spring '12, Computing Oversight Committee.
- Fall '10 – Spring '12, Undergraduate Curriculum Committee.

University Services – SUNY Buffalo

- 2025 - present, SEAS Dean's Committee.
- Fall '21 - Spring '24, Co-Director, UB Center for Information Integrity.
- Fall '21 - Spring '24, SEAS Promotion Committee.
- Spring '21 – Spring '23, Advisory Board Member, Digital Scholarship Studio and Network.

University Services – SUNY Albany

- Spring'18, Center, Institute & Lab Task Force.
- Fall '17, Committee for the University's Strategic Development and Planning Initiative in the subcommittee for Research and Creative Activities.
- Fall '16, University's Strategic Development and Planning Initiative in Engineering and Technology.
- Summer '14, panelist in the University's ITLAL Early Faculty Career Workshop.

SUNY System-wide Services

- Spring '19 – Fall '20, Member of SUNY Senior Vice Chancellor's Scientific Advisory Panel (SAP).

PROFESSIONAL MEMBERSHIPS
IEEE Fellow (2022 – present), Senior Member (2016 – 2022), Member (2005 – 2016), Student Member (2001 – 2005). ACM Member (2008 – 2017), Senior Member (2017 - 2022), Distinguished Member (2022 – present). Omicron Delta Kappa ($O\Delta K$) Member (2016 – present). Sigma Xi Member (2019 – present).