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Education

PhD, Peking University, China, 2016

Bachelor of Science, Nanjing University of Posts & Telecommunications, China, 2010

Academic Appointments

Associate Professor of Computer Science, School of Computing and Information Systems, SMU, Jul 2024 - Present

Assistant Professor of Computer Science, School of Computing and Information Systems, SMU, Apr 2021 - Jun 2024

Assistant Professor of Information Systems, School of Computing and Information Systems, SMU, Aug 2019 - Mar 2021

RESEARCH

Publications

Journal Articles [Refereed]

ThinkMatter: Panoramic-aware instructional semantics for monocular vision-and-language navigation, by DAI, Guangzhao; WANG, Shuo; ZHAO, Hao; ZHU, Bin; SUN, Qianru; SHU, Xiangbo. (2026). *IEEE Transactions on Image Processing, 35* 1937-1950. https://doi.org/10.1109/TIP.2026.3652003 (Published)

A rate-dependent coreset selector for continual learning on time-varying data distributions, by LUO, Zilin; TIAN, Zichen; LIU, Yaoyao; SUN, Qianru. (2025). *Neurocomputing, 656* 1-9. https://doi.org/10.1016/j.neucom.2025.131519 (Published)

Generalized visual relation detection with diffusion models, by GAO, Kaifeng; CHEN, Siqi; ZHANG, Hanwang; XIAO, Jun; ZHUANG, Yueting; SUN, Qianru. (2025). *IEEE Transactions on Circuits and Systems for Video Technology, 36* (1), 1-15. https://doi.org/10.1109/TCSVT.2025.3588357 (Advance Online)

Synthesizing multi-person and rare pose images for human pose estimation, by ZHAO, Liuqing; TIAN, Zichen; ZOU Peng; HONG, Richang; SUN, Qianru. (2025). *IEEE Transactions on Multimedia,* 1-13. (Accepted)

Weakly-supervised semantic segmentation with image-level labels: From traditional models to foundation models, by CHEN, Zhaozheng; SUN, Qianru. (2025). *ACM Computing Surveys, 57* (5), 1-29. https://doi.org/10.1145/3707447 (Published)

Efficient cross-modal video retrieval with meta-optimized frames, by HAN, Ning; YANG, Xun; LIM, Ee-Peng; CHEN, Hao; SUN, Qianru. (2024). *IEEE Transactions on Multimedia, 26* 1-12. https://doi.org/10.1109/TMM.2024.3416669 (Published)

Open-set domain adaptation by deconfounding domain gaps, by ZHAO, Xin; WANG, Shengsheng; SUN, Qianru. (2023). *Applied Intelligence, 53* (7), 7862-7875. https://doi.org/10.1007/s10489-022-03805-9 (Published)

Learning comprehensive global features in person re-identification: Ensuring discriminativeness of more local regions, by XIA, Jiali; HUANG, Jianqiang; ZHENG, Shibao; ZHOU, Qin; SCHIELE, Bernt; HUA, Xian-Sheng; SUN, Qianru. (2023). *Pattern Recognition, 134* 1-35. https://doi.org/10.1016/j.patcog.2022.109068 (Advance Online)

Causal Interventional Training for Image Recognition, by QIN, Wei; ZHANG, Hanwang; HONG, Richang; LIM, Ee-Peng; SUN, Qianru. (2023). *IEEE Transactions on Multimedia, 25* 1033-1044. https://doi.org/10.1109/TMM.2021.3136717 (Published)

Revisiting Local Descriptor for Improved Few-Shot Classification, by HE, Jun; HONG, Richang; LIU, Xueliang; XU, Mingliang; SUN, Qianru. (2022). *ACM Transactions on Multimedia Computing, Communications and Applications, 18* (2), 1-23. https://doi.org/10.1145/3511917 (Published)

Generating music with emotions, by BAO, Chunhui; SUN, Qianru. (2022). *IEEE Transactions on Multimedia, 25* 1-14. http://doi.org/10.1109/TMM.2022.3163543 (Published)

Learning to teach and learn for semi-supervised few-shot image classification, by LI, Xinzhe; HUANG, Jianqiang; LIU, Yaoyao; ZHOU, Qin; ZHENG, Shibao; SCHIELE, Bernt; SUN, Qianru. (2021). *Computer Vision and Image Understanding, 212* 1-10. https://doi.org/10.1016/j.cviu.2021.103270 (Published)

Generating Face Images With Attributes for Free, by LIU, Yaoyao; SUN, Qianru; HE Xiangnan; LIU An-An; SU Yuting; CHUA Tat-Seng. (2021). *IEEE Transactions on Neural Networks and Learning Systems, 32* (6), 2733-2743. https://doi.org/10.1109/TNNLS.2020.3007790 (Published)

Mixed Dish Recognition With Contextual Relation and Domain Alignment, by DENG, Lixi; CHEN, Jingjing; NGO, Chong-Wah; SUN, Qianru; TANG, Sheng; ZHANG, Yongdong; CHUA, Tat-Seng. (2022). *IEEE Transactions on Multimedia, 24* 2034-2045. https://doi.org/10.1109/TMM.2021.3075037 (Published)

Meta-Transfer Learning Through Hard Tasks, by SUN, Qianru; LIU, Yaoyao; CHEN Zhaozheng; CHUA Tat-Seng; SCHIELE Bernt. (2022). *IEEE Transactions on Pattern Analysis and Machine Intelligence, 44* (3), 1443-1456. https://doi.org/10.1109/TPAMI.2020.3018506 (Published)

A compact representation of human actions by sliding coordinate coding, by DING, Runwei; SUN, Qianru; LIU, Mengyuan; LIU, Hong. (2017). *International Journal of Advanced Robotic Systems, 14* (6), 1-12. https://doi.org/10.1177/1729881417746114 (Published)

Online growing neural gas for anomaly detection in changing surveillance scenes, by SUN, Qianru; LIU, Hong; HARADA, Tatsuya. (2017). *Pattern Recognition, 64* 187-201. https://doi.org/10.1016/j.patcog.2016.09.016 (Published)

Human activity prediction by mapping grouplets to recurrent Self-Organizing Map, by SUN, Qianru; LIU, Hong; LIU, Mengyuan; ZHANG, Tianwei. (2016). *Neurocomputing, 177* 427-440. (Published)

A novel hierarchical Bag-of-Words model for compact action representation, by SUN; Qianru; LIU, Hong; LIU, Hong; MA, Liqian; ZHANG, Tianwei. (2016). *Neurocomputing, 174* 722-732. https://doi.org/10.1016/j.neucom.2015.09.074 (Published)

Salient pairwise spatio-temporal interest points for real-time activity recognition, by LIU, Mengyuan; LIU, Hong; SUN, Qianru; ZHANG, Tianwei; DING, Runwei. (2016). *CAAI Transactions on Intelligence Technology, 1* (1), 14-29. https://doi.org/10.1016/j.trit.2016.03.001 (Published)

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SUN, Qianru; ZHANG, Hanwang. (2025.0). *2025 International Conference on Computer Vision ICCV: Honolulu, October 19-23, Proceedings,* (pp. 1-10) Washington, DC: IEEE Computer Society. https://openaccess.thecvf.com/content/ICCV2025/papers/Zhao_Unsupervised_Visual_Chain-of-Thought_Reasoning_via_Preference_Optimization_ICCV_2025_paper.pdf (Published)

3D question answering via only 2D vision-language models, by WANG, Fengyun; YU, Sicheng; WU, Jiawei; TANG, Jinhui; ZHANG, Hanwang; SUN, Qianru. (2025.0). *Proceedings of the 42nd International Conference on Machine Learning, Vancouver, Canada, 2025 July13-19,* (pp. 1-16) Vancouver: (Published)

Meta-learning hyperparameters for foundation model adaptation in remote-sensing imagery, by TIAN, Zichen; LIU, Yaoyao; SUN, Qianru. (2025.0). *Proceedings of the 2025 IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR'25, Nashville, USA, June 11-15,* (pp. 1-11) Nashville: CVPR. (Accepted)

Reverse modeling in large language models, by YU, Sicheng; XU, Yuanchen; DU, Cunxiao; ZHOU, Yanying; QIU, Minghui; SUN, Qianru; ZHANG, Hao; WU, Jiawei. (2025.0). *Proceedings of the 2025 Annual Conference of the Nations of the Americas Chapter of the ACL, NAACL'25, Albuquerque, New Mexico, April 29 - May 4,* (pp. 1-13) New Mexico: (Accepted)

Frame-voyager: Learning to query frames for video large language models, by YU, Sicheng; JIN, Chengkai; WANG, Huanyu; CHEN, Zhenghao; JIN, Sheng; ZUO, Zhongrong; XU, Xiaolei; SUN, Zhenbang; ZHANG, Bingni; WU, Jiawei; ZHANG, Hao; SUN, Qianru. (2025.0). *Proceedings of the Thirteenth International Conference on Learning Representations, ICLR 2025, Singapore, April 24-28,* (pp. 1-26) Singapore: (Accepted)

LLMs-based augmentation for domain adaptation in long-tailed food datasets, by WANG, Qing; NGO, Chong-Wah; LIM, Ee Peng; SUN, Qianru. (2025.0). *MultiMedia Modeling: 31st International Conference on Multimedia Modeling, MMM 2025, Nara, January 8-10, Proceedings,* (pp. 282-295) Cham: Springer. https://doi.org/10.1007/978-981-96-2061-6_21 (Published)

Towards unified multimodal editing with enhanced knowledge collaboration, by PAN, Kaihang; FAN, Zhaoyu; LI, Juncheng; YU, Qifan; FEI, Hao; TANG, Siliang; HONG, Richang; ZHANG, Hanwang; SUN, Qianru. (2024.0). *Proceedings of the 38th Conference on Neural Information Processing Systems, Vancouver, Canada, 2024 December 10-15* , (pp. 1-18) California: The Neural Information Processing Systems Foundation. (Accepted)

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Automating dataset updates towards reliable and timely evaluation of Large Language Models, by YING, Jiahao Ying; CAO, Yixin; BAI, Yushi; SUN, Qianru; WANG, Bo; TANG, Wei; DING, Zhaojun; YANG, Yizhe; HUANG, Xuanjing; YAN, Shuicheng. (2024.0). *Proceedings of 38th Conference on Neural Information Processing Systems (NeurIPS 2024), Datasets and Benchmarks : December 10-15, Vancouver Canada,* Vancouver: Conference on Neural Information Processing Systems, NeurIPS. (Accepted)

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LLMs-as-instructors: Learning from errors toward automating model improvement, by YING, Jiahao; LIN, Mingbao; CAO, Yixin; TANG, Wei; WANG, Bo; SUN, Qianru; HUANG, Xuanjing; YAN, Shuicheng. (2024.0). *Proceedings of Empirical Methods in Natural Language Processing (EMNLP 2024) : Miami, November 12-16,* (pp. 11185-11208) Miami: Association for Computational Linguistics. (Accepted)

Few-shot learner parameterization by diffusion time-steps, by YUE, Zhongqi; ZHOU, Pan; HONG, Richang; ZHANG, Hanwang; SUN Qianru. (2024.0). *Proceedings of the IEEE/CVF International Conference on Computer Vision and Pattern Recognition Conference (CVPR), Seattle, 2024 June 17-21,* (pp. 23263-23272) Seattle WA, USA: CVPR. https://openaccess.thecvf.com/content/CVPR2024/papers/Yue_Few-shot_Learner_Parameterization_by_Diffusion_Time-steps_CVPR_2024_paper.pdf (Published)

Unleashing Network Potentials for Semantic Scene Completion, by Fengyun Wang, Qianru Sun, Dong Zhang, and Jinhui Tang. (2024.0). *Proceedings of the IEEE/CVF International Conference on Computer Vision and Pattern Recognition Conference (CVPR), Seattle, 2024 June 17-21,* (pp. 10314-10323) Seattle:

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Exploring diffusion time-steps for unsupervised representation learning, by YUE, Zhongqi; WANG, Jiankun; SUN, Qianru; JI, Lei; CHANG, Eric I-Chao; ZHANG, Hanwang. (2024.0). *Proceedings of the Twelfth International Conference on Learning Representations, ICLR '24, Vienna, Austria, May 7,* (pp. 1-11) Vienna: ICLR. https://openreview.net/forum?id=bWzxhtl1HP (Published)

Wakening past concepts without past data: Class-incremental learning from online placebos, by LIU, Yaoyao; LI, Yingying; SCHIELE, Bernt; SUN, Qianru. (2024.0). *Proceedings of the 2024 IEEE/CVF Winter Conference on Applications of Computer Vision, Waikoloa, United States of America, January 4-8,* (pp. 2215-2224) New Jersey: IEEE. https://doi.org/10.1109/WACV57701.2024.00222 (Published)

Generalized logit adjustment: Calibrating fine-tuned models by removing label bias in foundation models, by ZHU, Beier; TANG, Kaihua; SUN, Qianru; ZHANG, Hanwang. (2023.0). *Proceedings of the 37th Conference on Neural Information Processing Systems (NeurIPS 2023), New Orleans, December 10-16,* (pp. 1-18) New Orleans: NeurIPS . (Published)

Make the U in UDA matter: Invariant consistency learning for unsupervised domain adaptation, by YUE, Zhongqi; SUN, Qianru; ZHANG, Hanwang. (2023.0). *Proceedings of the 37th Conference on Neural Information Processing Systems (NeurIPS 2023), New Orleans, December 10-16,* (pp. 1-20) New Orleans: NeurIPS . (Published)

Invariant training 2D-3D joint hard samples for few-shot point cloud recognition, by YI, Xuanyu; DENG, Jiajun; SUN, Qianru; HUA, Xian-Sheng; LIM, Joo-Hwee; ZHANG, Hanwang. (2023.0). *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV), Paris, France, October 2-6,* (pp. 14463-14474) Piscataway, NJ: IEEE. (Published)

Semantic scene completion with cleaner self, by WANG, Fengyun; ZHANG, Dong; ZHANG, Hanwang; TANG, Jinhui; SUN, Qianru. (2023.0). *Proceedings of the 2023 Conference on Computer Vision and Pattern Recognition, Vancouver, Canada, 2023 June 18-22,* (pp. 867-877) Vancouver: CVPR. https://doi.org/10.48550/arXiv.2303.09977 (Published)

Freestyle layout-to-image synthesis, by XUE, Han; HUANG, Zhiwu; SUN, Qianru; SONG, Li; ZHANG, Wenjun. (2023.0). *Proceedings of the 2023 Conference on Computer Vision and Pattern Recognition, Vancouver, Canada, 2023 June 18-22,* (pp. 14256-14266) Vancouver: CVPR. (Published)

Extracting class activation maps from non-discriminative features as well, by CHEN, Zhaozheng; SUN, Qianru. (2023.0). *Proceedings of the 2023 Conference on Computer Vision and Pattern Recognition, Vancouver, Canada, 2023 June 18-22,* (pp. 3135-3144) Vancouver: CVPR. (Published)

Class-incremental exemplar compression for class-incremental learning, by LUO, Zilin; LIU, Yaoyao; SCHIELE, Bernt; SUN, Qianru. (2023.0). *Proceedings of the 2023 Conference on Computer Vision and Pattern Recognition, Vancouver, Canada, 2023 June 18-22,* (pp. 11371-11380) Vancouver: CVPR. (Published)

Unbiased multiple instance learning for weakly supervised video anomaly detection, by LV, Hui; YUE, Zhongqi; SUN, Qianru; LUO, Bin; CUI, Zhen; ZHANG, Hanwang. (2023.0). *Proceedings of the 2023 Conference on Computer Vision and Pattern Recognition, Vancouver, Canada, 2023 June 18-22,* (pp. 8022-8031) Vancouver: CVPR. (Published)

Compositional prompt tuning with motion cues for open-vocabulary video relation detection, by GAO, Kaifeng; CHEN, Long; ZHANG, Hanwang; XIAO, Jun; SUN, Qianru. (2023.0). *Proceedings of the eleventh International Conference on Learning Representations, Kigali, Rwanda, 2023 May 1-5,* (pp. 1-16) Kigali, Rwanda: ICLR. (Published)

Online hyperparameter optimization for class-incremental learning, by LIU, Yaoyao; LI, Yingying; SCHIELE, Bernt; SUN, Qianru. (2023.0). *Proceedings of the Thirty-Seventh AAAI Conference on Artificial Intelligence, Washington, DC, 2023 February 7-14,* (pp. 1-9) Washington, USA: AAAI. (Published)

Interventional training for out-of-distribution natural language understanding, by YU, Sicheng; JIANG, Jing; ZHANG, Hao; NIU, Yulei; SUN, Qianru; BING, Lidong. (2022.0). *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing EMNLP: Abu Dhabi, December 7-11,* (pp. 11627-11638) Abu Dhabi: ACL. (Published)

On mitigating hard clusters for face clustering, by CHEN, Yingjie; ZHONG, Huasong; CHEN, Chong; SHEN, Chen; HUANG, Jianqiang; WANG, Tao; LIANG, Yun; SUN, Qianru. (2022.0). *Computer Vision: ECCV 2022: 17th European Conference, Tel Aviv, Israel, October 23-27: Proceedings,* (pp. 529-544) Cham: Springer. https://doi.org/10.1007/978-3-031-19775-8_31 (Published)

Equivariance and invariance inductive bias for learning from insufficient data, by WANG, Tan; SUN, Qianru; PRANATA, Sugiri; JAYASHREE, Karlekar; ZHANG, Hanwang. (2022.0). *Computer Vision ECCV 2022: 17th European Conference, Tel Aviv, Israel, October 23-27: Proceedings,* (pp. 241-258) Cham: Springer. https://doi.org/10.1007/978-3-031-20083-0_15 (Published)

Class is invariant to context and vice versa: On learning invariance for out-of-distribution generalization, by QI, Jiaxin; TANG, Kaihua; SUN, Qianru; HUA, Xian-Sheng; ZHANG, Hanwang. (2022.0). *Computer Vision ECCV 2022: 17th European Conference, Tel Aviv, Israel, October 23-27: Proceedings,* (pp. 92-109) Cham: Springer. https://doi.org/10.1007/978-3-031-19806-9_6 (Published)

Class re-activation maps for weakly-supervised semantic segmentation, by CHEN, Zhaozheng; WANG, Tan; WU, Xiongwei; HUA, Xian-Sheng; ZHANG, Hanwang; SUN, Qianru. (2022.0). *2022 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR): New Orleans, June 18-24: Proceedings,* (pp. 969-978) Piscataway, NJ: IEEE. http://doi.org/10.1109/CVPR52688.2022.00104 (Published)

Translate-train embracing translationese artifacts, by YU, Sicheng; SUN, Qianru; ZHANG, Hao; JIANG, Jing. (2022.0). *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics, Dublin, Ireland, 2022 May 22-27,* (pp. 362-370) Dublin, Ireland: Association for Computational Linguistics. http://doi.org/10.18653/v1/2022.acl-short.40 (Published)

Deconfounded visual grounding, by HUANG, Jianqiang; QIN, Yu; QI, Jiaxin; SUN, Qianru; ZHANG, Hanwang. (2022.0). *Proceedings of the 36th AAAI Conference on Artificial Intelligence, Virtual Conference, 2022 February 2 - March 1,* (pp. 998-1006) Virtual Conference: AAAI. http://doi.org/10.1609/aaai.v36i1.19983 (Published)

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RMM: Reinforced memory management for class-incremental learning, by LIU, Yaoyao, SCHIELE, Bernt; SUN, Qianru. (2021.0). *Proceedings of the 35th Conference on Neural Information Processing Systems, Virtual Conference, 2021 December 6-14,* (pp. 1-13) Virtual Conference: (Published)

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Self-regulation for semantic segmentation, by ZHANG, Dong; ZHANG, Hanwang; TANG, Jinhui; HUA, Xian-Sheng; SUN, Qianru . (2021.0). *Proceedings of 2021 International Conference on Computer Vision, Virtual Conference, October 11-17,* (pp. 6953-6963) Virtual Conference: (Published)

Transporting causal mechanisms for unsupervised domain adaptation, by YUE, Zhongqi; SUN, Qianru; HUA, Xian-Sheng; ZHANG, Hanwang. (2021.0). *Proceedings of 2021 International Conference on Computer Vision, Virtual Conference, October 11-17,* (pp. 1-16) Virtual Conference: (Published)

COSY: COunterfactual SYntax for cross-lingual understanding, by YU, Sicheng; ZHANG, Hao; NIU, Yulei; SUN, Qianru; JIANG, Jing. (2021.0). *ACL-IJCNLP 2021: Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics, August 1-6,* (pp. 577-589) Online: Association for Computational Linguistics. https://doi.org/10.18653/v1/2021.acl-long.48 (Published)

Counterfactual zero-shot and open-set visual recognition, by YUE, Zhongqi; WANG, Tan; SUN, Qianru; HUA, Xian-Sheng; ZHANG, Hanwang. (2021.0). *2021 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR): Virtual, June 20-25: Proceedings,* (pp. 15399-15409) Los Alamitos, CA: IEEE Computer Society. https://doi.org/10.1109/CVPR46437.2021.01515 (Published)

Adaptive aggregation networks for class-incremental learning, by LIU, Yaoyao; SCHIELE, Bernt; SUN, Qianru. (2021.0). *2021 IEEE/CVF Conference on Computer Vision and Pattern Recognition: Virtual, June 21-24: Proceedings,* (pp. 2544-2553) Piscataway, NJ: IEEE. https://doi.org/10.1109/CVPR46437.2021.00257 (Published)

Causal intervention for weakly-supervised semantic segmentation, by ZHANG Dong; ZHANG, Hanwang; TANG, Jinhui; HUA, Xian-Sheng; SUN, Qianru. (2020.0). *Proceedings of the 34th Conference on Neural Information Processing Systems, NeurIPS 2020, Vancouver, Canada, December 6-12,* (pp. 1-12) Virtual Conference: (Published)

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Feature pyramid transformer, by ZHANG, Dong; ZHANG, Hanwang; TANG, Jinhui; WANG, Meng; HUA, Xian-Sheng; SUN, Qianru. (2020.0). *Computer vision: ECCV 2020, 16th European Conference, Glasgow, Virtual, August 23-28, Proceedings,* (pp. 323-339) Cham: Springer. https://doi.org/10.1007/978-3-030-58604-1_20 (Published)

An ensemble of epoch-wise empirical Bayes for few-shot learning, by LIU, Yaoyao; SCHIELE, Bernt; SUN, Qianru. (2020.0). *Computer Vision - ECCV 2020: 16th European Conference, Glasgow, August 23-28: Proceedings,* (pp. 404-421) Cham: Springer. https://doi.org/10.1007/978-3-030-58517-4_24 (Published)

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Teacher-student networks with multiple decoders for solving math word problem, by ZHANG, Jipeng; LEE, Roy Ka-Wei; LIM, Ee-Peng; QIN, Wei; WANG, Lei; SHAO, Jie; SUN, Qianru. (2020.0). *Proceedings of the Twenty-Ninth International Joint Conference on Artificial Intelligence 2020: Yokohama,* (pp. 4011-4017) Menlo Park, CA: IJCAI. https://doi.org/10.24963/ijcai.2020/555 (Published)

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Mixed-dish recognition with contextual relation networks, by DENG, Lixi; CHEN, Jingjing; SUN, Qianru; HE, Xiangnan; TANG, Sheng; MING, Zhaoyan; ZHANG, Yongdong; CHUA, Tat-Seng. (2019.0). *MM '19: Proceedings of the 27th ACM International Conference on Multimedia, Nice, October 21-25,* (pp. 112-120) New York: ACM. https://doi.org/10.1145/3343031.3351147 (Published)

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Meta-transfer learning for few-shot learning, by SUN, Qianru; LIU, Yaoyao; CHUA, Tat-Seng; SCHIELE, Bernt. (2019.0). *2019 IEEE/CVF Conference on Computer Vision and Pattern Recognition: Long Beach, CA,*

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A domain based approach to social relation recognition, by SUN, Qianru; SCHIELE, Bernt; FRITZ, Mario. (2017.0). *2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR): Honolulu, HI, July 21-26: Proceedings,* (pp. 3481-3490) Los Alamitos, CA: IEEE Computer Society. https://doi.org/10.1109/CVPR.2017.54 (Published)

Human action classification based on sequential bag-of-words model, by LIU, Hong; ZHANG, Qiaoduo; SUN, Qianru. (2014.0). *Proceddings of the 2014 IEEE International Conference on Robotics and Biomimetics (ROBIO 2014), Bali, December 5-10,* (pp. 2280-2285) Bali: https://doi.org/10.1109/ROBIO.2014.7090677 (Published)

Online learning on incremental distance metric for person re-identification, by SUN, Yuke; LIU, Hong; SUN, Qianru. (2014.0). *Proceedings of the 2014 IEEE International Conference on Robotics and Biomimetics (ROBIO 2014), Bali, December 5-10,* (pp. 1421-1426) Bali: https://doi.org/10.1109/ROBIO.2014.7090533 (Published)

Action classification by exploring directional co-occurrence of weighted STIPs, by LIU, Mengyuan; LIU, Hong; SUN, Qianru. (2014.0). *2014 IEEE International Conference on Image Processing (ICIP 2014), Paris, October 27-30,* (pp. 1460-1464) Paris: IEEE. https://doi.org/10.1109/ICIP.2014.7025292 (Published)

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Learning spatio-temporal co-occurrence correlograms for efficient human action classification, by SUN, Qianru; LIU, Hong. (2013.0). *2013 IEEE International Conference on Image Processing (ICIP 2013), Melbourne, September 15-18,* (pp. 1-5) Melbourne: IEEE. https://doi.org/10.1109/ICIP.2013.6738663 (Published)

Inferring ongoing human activities based on recurrent self-organizing map trajectory, by SUN, Qianru; LIU, Hong. (2013.0). *Proceedings of the 24th British Machine Vision Conference (BMVC 2013), Bristol, September 9-13,* (pp. 1-11) Bristol: BMVA. https://doi.org/10.5244/C.27.11 (Published)

Action disambiguation analysis using normalized google-like distance correlogram, by SUN, Qianru; LIU, Hong. (2012.0). *Proceedings of the 11th Asian Conference on Computer Vision (ACCV 2012), Daejeon, Korea, November 5-9,* (pp. 1-12) Seoul: https://doi.org/10.1007/978-3-642-37431-9_33 (Published)

Research Grants

Singapore Management University

Weakly-supervised Semantic Segmentation and Its Applications in SAR Images, DSO National Laboratories (DSO) , PI (Project Level): SUN Qianru, 2022, S$343,999.5

Task-Specific Data Augmentation in Class-Incremental Learning Systems, Alibaba Innovative Research (AIR) Programme, Alibaba DAMO Academy (Hangzhou) Technology , PI (Project Level): SUN Qianru, 2021, S$119,302

Fast-Adapted Neural Networks for Advanced AI Systems, AME Individual Research Grants/Young Individual Research Grants, Agency for Science, Technology and Research (A*STAR) , PI (Project Level): SUN Qianru, 2020, S$265,584

Automated Deep Neural Network Initiation by Meta-Learning, Alibaba Innovative Research (AIR) Programme, Alibaba Cloud (Singapore) , PI (Project Level): SUN Qianru, 2019, S$121,572

imSAM: An Interactive Medical Segment Anything Model, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): SUN Qianru, 2025, S$150,000

Automated Class-Incremental Learning System via Bilevel Optimization Programs, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): SUN Qianru, 2020, S$100,000

<u>Other Institutions</u>

Transition from Living Analytics Research Centre to Social Urban Observatory, Strategic Capabilities Research Centres Funding Initiative, NRF PI (Project Level): LIM Ee Peng, Co-PI (Project Level): ZHENG Baihua, Archan MISRA, Jing JIANG, Wei GAO, SUN Qianru, HARA, Kotaro, Palakorn ACHANANUPARP, 2021, SGD2,687,280

Transition from Living Analytics Research Centre to Social Urban Observatory, NRF, National Research Foundation - Strategic Capabilities Research Centres Funding Initiative , PI (Programme Level): LIM Ee Peng, PI (Project Level): LIM Ee Peng, Archan MISRA, Jing JIANG, ZHENG Baihua, Co-PI (Project Level): HARA, Kotaro, SUN Qianru, Palakorn ACHANANUPARP, Wei GAO, 2021, SGD2,687,280

TEACHING

Teaching Areas

Data Management

Courses Taught

<u>Singapore Management University</u>

Undergraduate Programmes :

    Computational Thinking and Programming

    Introduction to Programming

Postgraduate Professional Programmes :

    Artificial Intelligence and Uncertainty Reasoning

    Capstone Project - Data Science and Engineering

    Deep Learning for Visual Recognition

    Introduction to Artificial Intelligence

Postgraduate Research Programmes :

Deep Learning and Vision

Empirical Research Project 1

Empirical Research Project 2

Empirical Research Project 3

Empirical Research Project 4