Shishi Qiao, Ph.D., Lecturer

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Shishi Qiao received the B.E. degree in computer science and technology from the Harbin Institute of Technology (HIT), Harbin, China in 2014, and the Ph.D. degree in computer application technology from the Institute of Computing Technology (ICT), Chinese Academy of Sciences (CAS), Beijing, China in 2021, where he was co-supervised by Prof. Xilin Chen, Prof. Ruiping Wang and Prof. Shiguang Shan. In 2021, he joined the research group on Micronano Perception and Information Intelligence (MPII) of the College of Electronic Engineering, Ocean University of China (OUC), where he is currently an assistant professor and working with the group leader Prof. Haiyong Zheng. He focuses on the cutting-edge research fields of deep learning and artificial intelligence, including computer vision, and underwater vision, especially on hashing for image/video retrieval, semantical image perception and generation, and underwater sonar data perception.

Employment History

2021 – now **Lecturer.** College of Electronic Engineering, Faculty of Information Science and Engineering, OUC, Qingdao, China.

Education

2014 – 2021 **Ph.D.** Visual information processing laboratory (VIPL), Institute of Computing Technology (ICT), Chinese Academy of Sciences (CAS), Beijing, China.
Advisor: Prof. Xilin Chen, and co-advisor: Prof. Ruiping Wang.

2010 – 2014 **BEng.** Computer Science and Technology, Harbin Institute of Technology, Harbin, China.

Research Publications

Journal Articles

1. J. Li, W. Yang, **S. Qiao**, Z. Gu, B. Zheng, and H. Zheng, "Self-supervised marine organism detection from underwater images," *IEEE Journal of Oceanic Engineering*, 2024.
2. **S. Qiao**, R. Wang, S. Shan, and X. Chen, "Hierarchical image-to-image translation with nested distributions modeling," *Pattern Recognition*, vol. 146, p. 110 058, 2024.
3. **S. Qiao**, R. Wang, S. Shan, and X. Chen, "Hierarchical disentangling network for object representation learning," *Pattern Recognition*, vol. 140, p. 109 539, 2023.
4. **S. Qiao**, R. Wang, S. Shan, and X. Chen, "Deep video code for efficient face video retrieval," *Pattern Recognition*, vol. 113, p. 107 754, 2021.
5. **S. Qiao**, R. Wang, S. Shan, and X. Chen, "Deep heterogeneous hashing for face video retrieval," *IEEE Transactions on Image Processing*, vol. 29, pp. 1299–1312, 2019.

Conference Proceedings

1. R. Wang, **S. Qiao**, R. Wang, S. Shan, and X. Chen, "Hybrid video and image hashing for robust face retrieval," in *2020 15th IEEE International Conference on Automatic Face and Gesture Recognition (FG 2020)*, IEEE, 2020, pp. 168–175.
2. R. Wang, R. Wang, **S. Qiao**, S. Shan, and X. Chen, "Deep position-aware hashing for semantic continuous image retrieval," in *Proceedings of the IEEE/CVF winter conference on applications of computer vision*, 2020, pp. 2493–2502.

3 **S. Qiao**, R. Wang, S. Shan, and X. Chen, "Deep video code for efficient face video retrieval," in *Asian Conference on Computer Vision*, 2016, pp. 296–312.

Project Grants and Patents

Project Grants

2023.01-2025.12 Research of Self-supervised Hashing towards Large-scale Underwater Sonar and Optical Data Retrieval. National Natural Science Foundation (NSFC) Youth. Grant No.62206260, Principle Investigator. ¥300 Thousand.

2025.01-2027.12 Research on Large-Scale Underwater Data Retrieval with Limited Fine-Grained Annotations. Natural Science Foundation of Shandong Province (Youth). Grant No.ZR2024QF077, Principle Investigator. ¥120 Thousand.

2024.09-2026.08 Image and Video Generation Based on Time-Space Consistent Diffusion Models. Open Funding of Key Laboratory of Intelligent Visual Monitoring for Hydropower Engineering of Hubei Province. Grant No.2024SDSJ08, Principle Investigator. ¥20 Thousand.

2022.01-2023.12 Research on Hashing for Underwater Image Mining with Finite Annotations. Qingdao Postdoctoral Application Research Project. Principle Investigator. ¥50 Thousand.

2025.01-2028.12 Research on Underwater Image Enhancement and Reconstruction Based on Self-supervised Contrastive Learning and Multimodal Prompt Learning. National Natural Science Foundation (NSFC). Grant No.62471447, Main Investigator (3rd Place). ¥500 Thousand.

Patents

2020.09.29 Xilin Chen, **Shishi Qiao**, and Ruiping Wang. Video Retrieval Method based on Deep Learning and Hash Coding. No.ZL 2017 1 0530458.1, Authorized on Sep.29, 2020.

Educational Projects

2024.09-2025.09 Digital and Intelligent Course of "High-level Language Programming". AI-Powered Educational Reform: Digital and Intelligent Courses of OUC. Principle Investigator. ¥100 Thousand.

2025.01-2025.12 Research of the Teaching Reformation and Effect Evaluation of "High-level Language Programming" Course Enabled by Large AI Models. 2024 General Research Program on Undergraduate Education and Teaching Research of OUC. Main Investigator (2nd Place).

Awards

2025.01 **First Prize in the First National Intelligent Teaching Case Contest** for College Teachers Majoring in Electronic Information.

Awards (continued)

2024.12 **Second Prize of the First Teaching Case Contest** of the Faculty of Information Science and Engineering, OUC.

2024.06 **Excellent Undergraduate Advisor of OUC**.

2024.02 **First-class Undergraduate Courses** in Shandong Province, Haiyong Zheng, **Shishi Qiao**, Lin Li, Zhibin Yu, and Shenghui Rong. High-level Language Program Design.

2023.01 **Annually Outstanding Staff of OUC**.

Teaching and Services

Teaching

2024, Spring - Now Computer Organization and Design. 64 Class Hours. Third-year Undergraduate.

2022, Fall - Now High-level Language Programming. 64 Class Hours. Freshman Class.

2023, Spring Practice of Programming (Python). 48 Class Hours. Third-year Undergraduate.

Services

Forums Chairman Academic Service and Tutorial Forums of the Young Scientists Conference of the CSIG in 2025.

Conference Organizer 25th Mount Everest Forum of CSIG in 2024, 10th Anniversary Special Event of VALSE Webinar.

Journal Review TPAMI, TIP, TMM, PR, Neurocomputing, TNNLS, JOE.

Conference Review CVPR, ICCV, ECCV, BMVC, WACV, ACCV, FG, ICME, PRCV.