

# 乔思波

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## 教学科研简介

以第一作者身份发表了多篇高水平学术论文，主持并参与了多项科研项目，主要包括国家自然科学基金青年 1 项、教育部产学研合作协同育人项目 1 项、中国石油大学研究生创新基金资助项目 1 项以及国家重点研发计划子课题 1 项等。

**研究方向：**医学信息智能处理、岩性识别、工业控制网络、人工智能算法及其应用等

**欢迎各位感兴趣的同学给我发邮件咨询（又不花钱），实验室将提供丰富的学术与实践的锻炼机会，可根据个人兴趣制定合理的培养方案！不管是读博深造，还是进入企业，我都会全力支持，并且积极帮助推荐。**

## 学习经历

- (1) 2020-09 至 2023-12，中国石油大学（华东），计算机技术与资源信息工程，博士
- (2) 2017-09 至 2020-06，中国石油大学（华东），软件工程，硕士
- (3) 2013-09 至 2017-06，山东科技大学，网络工程，学士

## 工作经历

- (1) 2025-01 至今，天津工业大学，软件学院，副教授
- (2) 2024-01 至 2024-12，天津工业大学，软件学院，讲师

## 主讲课程

机器视觉、通用人工智能、Python 程序设计语言

## 代表性论文

1. Shanchen Pang, Xue Zhao, Yulin Zhang, Yawu Zhao, Hengtao Ding, Zhiyuan Zhao, **Sibo Qiao\***. FKAN-GMFNet: Fourier Kolmogorov-Arnold-based Group Multi-scale Fusion Network for Aneurysm Image Segmentation, *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2025, Accepted.

2. **Sibo Qiao**, Qiang Guo, Fengdong Shi, Min Wang, Haohao Zhu, Fazlullah Khan, Joel J. P. C. Rodrigues, Zhihan Lyu. SIBW: A Swarm Intelligence-Based Network Flow Watermarking Approach for Privacy Leakage Detection in Digital Healthcare Systems, *IEEE Journal of Biomedical and Health Informatics*, 2025, accepted.
3. Jiamin Yao, **Sibo Qiao\***, Yu Xie, Saru Kumari, Qiao Lin, Fazlullah Khan, Efficient Resource Allocation Using Service Function Chain in Agricultural Consumer Electronics, *IEEE Transactions on Consumer Electronics*, 2025, Accepted.
4. Min Wang, Jiawang Chen, Haoyuan Wang, Ziyi Gao, Weihao Bian, **Sibo Qiao\***. An Enhanced List Scheduling Algorithm for Heterogeneous Computing Using an Optimized Predictive Cost Matrix, *Future Generation Computer Systems*, 2025, 166: 107733.
5. Jiamin Yao, Qichao Mao, **Sibo Qiao\***, Yu Xie, Zhihan Lyu. 6G-Enabled Autonomous Vehicle Clusters in Expressways: A Collaborative Perception Approach, *IEEE Transactions on Intelligent Transportation Systems*, 2025, Accepted.
6. Shudong Wang, Zhiyuan Zhao, Yawu Zhao, Luqi Wang, Yuanyuan Zhang, Jiehuan Wang, **Sibo Qiao\***, Zhihan Lyu. A Semantic Conditional Diffusion Model for Enhanced Personal Privacy Preservation in Medical Images, *IEEE Journal of Biomedical and Health Informatics*, 2024, accepted.
7. Yu Xie, Yang Hong, **Sibo Qiao\***, Jiamin Yao, Guanjun Liu, Shanchen Pang, A Time-Aware Generative Network for Enhancing Transaction Security in Consumer Electronics, *IEEE Transactions on Consumer Electronics*, 2024, accepted.
8. **Sibo Qiao**, Zhiyuan Zhao, Pengfei Xie, Wenjing Yin, Min Wang, Yuanyuan Zhang, and Shanchen Pang. A Novel Conv-Mamba-Hybrid Network for Medical Image Segmentation, *IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, 2024: 4261-4268. (CCF B)
9. Shudong Wang, Xue Zhao, Yulin Zhang, Yawu Zhao, Zhiyuan Zhao, Hengtao Ding, Tianxing Chen, **Sibo Qiao\***. DPMNet: Dual-Path MLP-based Network for Aneurysm Image Segmentation, *International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)*, 2024: 245-254. (Oral) (CCF B)
10. Shudong Wang, Hengtao Ding, Yawu Zhao, Zhiyuan Zhao, Xue Zhao, **Sibo Qiao\***. Aligned Patch Calibration Attention Network for Few-Shot Medical Image Segmentation, *IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, 2024: 3772-3777. (CCF B)
11. **Sibo Qiao**, Shanchen Pang, Gang Luo, Pengfei Xie, Wenjing Yin, Silin Pan, Zhihan Lyu. A Progressive Growing Generative Adversarial Network Composed of Enhanced Style-Consistent Modulation for Fetal Ultrasound Four-Chamber View Editing Synthesis, *Engineering Applications of Artificial Intelligence*, 2024, 133: 108438.
12. **Sibo Qiao**, Shanchen Pang, Yi Sun, Gang Luo, Wenjing Yin, Yawu Zhao, Silin Pan, Zhihan Lv. SPReCHD: Four-chamber Semantic Parsing Network for Recognizing Fetal Congenital Heart Disease in Medical Metaverse, *IEEE Journal of Biomedical and Health Informatics*, 2024, 28(6): 3672-3682.
13. Leiming Chen, Cihao Dong, Ziling Huang, Yuming Nie, Zhaoxiang Hou, **Sibo Qiao\***. FedDRL: A Trustly Federated Learning Model Fusion Method Based on Staged Reinforcement Learning, *Computing and Informatics*, 2024, 43(1): 1-37.
14. Leiming Chen, Weishan Zhang, Cihao Dong, Dehai Zhao, Xingjie Zeng, **Sibo Qiao\***, Yichang

- Zhu, Chee Wei Tan. FedTKD: A Trustworthy Heterogeneous Federated Learning Based on Adaptive Knowledge Distillation, *Entropy*, 2024, 26(1): 96.
15. **Sibo Qiao**, Shanchen Pang, Pengfei Xie, Wenjing Yin, Shihang Yu, Haiyuan Gui, Min Wang, Zhihan Lyu. HCMMNet: Hierarchical Conv-MLP-Mixed Network for Medical Image Segmentation in Metaverse for Consumer Health, *IEEE Transactions on Consumer Electronics*, 2024, 70(1): 2078-2089.
  16. **Sibo Qiao**, Shanchen Pang, Gang Luo, Yi Sun, Wenjing Yin, Silin Pan, Zhihan Lv, DPC-MSGATNet: dual-path chain multi-scale gated axial-transformer network for four-chamber view segmentation in fetal echocardiography. *Complex & Intelligent Systems*, 2023, 9: 4503-4519.
  17. **Sibo Qiao**, Silin Pan, Gang Luo, Shanchen Pang, Taotao Chen, Amit Kumar Singh, Zhihan Lv. A Pseudo-Siamese Feature Fusion Generative Adversarial Network for Synthesizing High-quality Fetal Four-chamber Views, *IEEE Journal of Biomedical and Health Informatics*, 2023, 27(3): 1193-1204.
  18. Shudong Wang, Fuyu Wang, **Sibo Qiao\***, Yu Zhuang, Kuijie Zhang, Shanchen Pang, Robert Nowak, Zhihan Lv. MSHGANMDA: Meta-Subgraphs Heterogeneous Graph Attention Network for miRNA-Disease Association Prediction, *IEEE Journal of Biomedical and Health Informatics*, 2023, 27(10): 4639-4648.
  19. Huiqi Zhao, Gaoyuan Liu, Huayi Sun, Guangyuan Zhong, Shanchen Pang, **Sibo Qiao\***, Zhihan Lv. An enhanced intrusion detection method for AIM of smart grid, *Journal of Ambient Intelligence and Humanized Computing*, 2023, <https://doi.org/10.1007/s12652-023-04538-4>.
  20. **Sibo Qiao**, Shanchen Pang, Gang Luo, Silin Pan, Taotao Chen, Zhihan Lv. FLDS: An Intelligent Feature Learning Detection System for Visualizing Medical Images Supporting Fetal Four-chamber Views, *IEEE Journal of Biomedical and Health Informatics*, 2022, 26(10): 4814-4825.
  21. **Sibo Qiao**, Shanchen Pang, Gang Luo, Silin Pan, Zengchen Yu, Taotao Chen, Zhihan Lv. RLDS: An Explainable Residual Learning Diagnosis System for Fetal Congenital Heart Disease, *Future Generation Computer Systems*, 2022, 128: 205-218.
  22. Shanchen Pang, Yu Zhuang, **Sibo Qiao\***, Fuyu Wang, Shudong Wang, Zhihan Lv. DCTGM: A Novel Dual-channel Transformer Graph Model for miRNA-disease Association Prediction, *Cognitive Computation*, 2022, <https://doi.org/10.1007/s12559-022-10092-6>.
  23. **Sibo Qiao**, Shanchen Pang, Yukun Dong, Haiyuan Gui, Qiwen Yuan, Zelong Zheng, Guoxuan Cui. A Deep Learning-based Intelligent Analysis Platform for Fetal Ultrasound Four-chamber Views, *International Conference on Information Science, Parallel and Distributed Systems*, 2022: 374-379.
  24. **Sibo Qiao**, Shanchen Pang, Min Wang, Xue Zhai, Feng Dai. Online Video Popularity Regression Prediction Model with Multichannel Dynamic Scheduling Based on User Behavior. *Chinese Journal of Electronics*, 2021, 30(5):876-884.
  25. 乔思波, 庞善臣, 王敏, 翟雪, 于世行, 丁桐. 基于残差混合注意力机制的脑部CT图像分类卷积神经网络模型, *电子学报*, 2021, 49(5): 984-991.
  26. **Sibo Qiao**, Shanchen Pang, Xue Zhai, Min Wang, Shihang Yu, Tong Ding, Xiaochun Cheng. Human Body Multiple Parts Parsing for Person Reidentification Based on Xception. *International Journal of Computational Intelligence Systems*, 2021, 14(1): 482-490.

1. 国家自然科学基金青年项目，基于健康胎儿超声心动图的先天性心脏病智能离群诊断方法研究，62402338，2025.1.1-2027.12.31，主持
2. 横向合作项目，基于多模态影像智能融合的肿瘤辅助诊断软件开发，2024.5.5-2025.5.5，主持
3. 横向合作项目，菌菇生长态势健康监护系统，2024.5.10-2025.5.10，主持
4. 中国石油大学研究生创新基金资助项目，基于多尺度 Transformer 的胎儿四腔心切面分割方法研究，22CX04036A，2022.4.1-2023.3.31，主持
5. 教育部产学研合作协同育人项目，基于深度学习的先天性心脏疾患辅助诊断系统，220606008080748，2022.6-2023.6，主持
6. 国家重点研发计划子课题，鲁棒元学习算法设计，2021YFA1000102-3，2021.12-2026.11，参与

## 专利情况

1. 庞善臣，王敏，**乔思波**，翟雪，王暖来. 一种基于全连接神经网络的固态发酵效用预测方法，专利号：ZL202011231701.8，授权号：CN112348253B
2. 郭衍银，何华，陈蓓，黄雪，梁国亮，**乔思波**，李建仁. 一种羊肚菌菌床培养基的自动取样检测装置，专利号：ZL202411327754.8，授权号：CN118858670B
3. 郭衍银，梁国亮，陈蓓，何华，黄雪，**乔思波**，李建仁. 一种羊肚菌菌床的自动清洁上料装置，专利号：ZL202411423691.6，授权号：CN118901500B

## 指导学生

### 科研竞赛

1. 王昊渊，陈加旺，杜金龙，全国产化替代的石油操作系统，第十九届中国研究生电子设计竞赛，省二等奖，（指导教师）
2. 唐士凯，杨成钰，郭慧敏，医疗仪器数字化实验箱，第十九届中国研究生电子设计竞赛，省二等奖，（指导教师）

### 国家奖学金

1. 王昊渊（硕士研究生国家奖学金）

## 获奖情况

1. 2024 年中国石油大学（华东）校级优秀博士学位论文
2. 2023 年第九届中国国际“互联网+”大学生创新创业大赛山东省金奖
3. 2023 年青岛千名优秀大学生
4. 2021 年博士研究生国家奖学金
5. 2020 年山东省优秀毕业生
6. 2019 年硕士研究生国家奖学金
7. 2019 年第五届中国“互联网+”大学生创新创业大赛山东省金奖、全国银奖

8. 2019 年第十六届“挑战杯”全国大学生课外学术科技作品竞赛山东赛区特等奖、全国铜奖
9. 2019 年青岛市“海鸥行动”大学生创新创业大赛金奖
10. 2019 年中国石油奖学金

## 科研服务

1. *IEEE Journal of Biomedical and Health Informatics*, Special Issue on “Semi-Supervised Learning for Intelligent Systems in Fetal Ultrasound Imaging: Advances, Challenges, and Future Directions”, **Lead Guest Editor**
2. *IEEE Transactions on Consumer Electronics*, Special Issue on “Federated Semi-Supervised Learning for Personalized Biomedical and Healthcare Applications in Consumer Electronics”, **Lead Guest Editor**