

YULEI QIN (秦玉磊)

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RESEARCH INTERESTS

I focus on (multi-modal) large language models, learning with noisy labels, and medical image analysis. Especially, I explore advanced techniques for improving the agentic and instruction-following capabilities of LLMs, robust learning from web-scale data, and applications in medical diagnosis.

PROFESSIONAL EMPLOYMENT

Tencent, Youtu Lab, *Senior Researcher* 04/2022 - now

Research on Post-training Methods of (M)LLMs; Development of LLM-driven Agent and Workflow Systems; Development of Image Recognition and Segmentation Applications.

EDUCATION

Shanghai Jiao Tong University, *Ph.D. in Control Science and Engineering* 09/2016 - 03/2022

Thesis: *Chest CT Image Segmentation and its Applications*

With Prof. Jie YANG, Institute of Image Processing and Pattern Recognition

Université de Lyon, INSA Lyon, *Ph.D. in Traitement du Signal et de l'Image* 11/2019 - 08/2021

Thesis: *Investigation of Deep Learning Methods for Classification and Segmentation of Chromosome and Pulmonary Images*

With Prof. Yue-Min ZHU, CREATIS

Southeast University, *B.Eng. in Automation* 09/2012 - 06/2016

Thesis: *Research on CT Image-based Sparsifying Transform Learning Methods*

With Prof. Siyu XIA, School of Automation

AWARDS

Outstanding Reviewer, IEEE Transactions on Medical Imaging 2022,2023,2024

Outstanding Graduate, Shanghai Jiao Tong University 2022

Lee Chieh-Ku Thesis Award, Shanghai Jiao Tong University 2022

Outstanding Reviewer, International Conference on MICCAI 2022

National Scholarship, Ministry of Education 2019

Hella Scholarship, Hella GmbH & Co. KGaA (Shanghai) 2015

SKILLS

Programming: Python/PyTorch

Tools: Linux/macOS/Git/L^AT_EX/OmniGraffle

Languages: Mandarin (mother tongue), English (TOELF 105), Japanese (JLPT N1), French (un peu)

SERVICES

Area Chair

International Conference on MICCAI 2025

Journal Reviewer

I regularly review for IEEE Transactions on Medical Imaging, IEEE Transactions on Neural Networks and Learning Systems, IEEE Journal of Biomedical and Health Informatics, Medical Physics, Artificial Intelligence in Medicine, Computer Methods and Programs in Biomedicine, Machine Learning with Applications, and International Journal of Computer Assisted Radiology and Surgery.

Conference Reviewer

International Conference on MICCAI 2021,2022,2023

International Conference on IPCAI 2024

ACL Rolling Review 2024,2025

Annual Conference on AAAI 2025,2026

Annual Conference on NeurIPS	2025
IEEE/CVF Conference on CVPR	2024,2025,2026
International Conference on ICCV	2025
International Conference on ICLR	2026

Activity

Teaching Assistant of Python Summer Camp (2019), Principles and Applications of Embedded Systems (2019), Principles and Applications of Database (2018/2019), Analog Electronics Techniques (2018), and Signals and Systems (2016) 2016 - 2019
 NOC Assistant (Botswana) of Nanjing Youth Olympic Games 2014

PUBLICATION SUMMARY

I have (first/co)-authored 20+ journal articles and conference papers. A detailed list is available on my **Google scholar**. Furthermore, I am an inventor on 18 Chinese patents in various stages of the process.

SELECTED JOURNAL PAPERS

- Qin, Y., Yang, Y., Guo, P., Li, G., Shao, H., Shi, Y., ... and Sun, X., Unleashing the Power of Data Tsunami: A Comprehensive Survey on Data Assessment and Selection for Instruction Tuning of Language Models, *Transactions on Machine Learning Research*. 2024
- Cui, X., Qin, Y.*, Gao, Y., Zhang, E., Xu, Z., Wu, T., ... and Li, H., SinkD: Sinkhorn Distance Minimization for Knowledge Distillation, *IEEE Transactions on Neural Networks and Learning Systems*. 2024
- Qin, Y., Zheng, H., Gu, Y., Huang, X., Yang, J., Wang, L., Yao, F., Zhu, Y.M. and Yang, G.Z., Learning Tubule-Sensitive CNNs for Pulmonary Airway and Artery Vein Segmentation in CT, *IEEE Transactions on Medical Imaging*. 2021
- Qin, Y., Wen, J., Zheng, H., Huang, X., Yang, J., Wu, L., Song, N., Zhu, Y.M., Yang, G.Z., Varifocal-Net: A Chromosome Classification Approach using Deep Convolutional Networks, *IEEE Transactions on Medical Imaging*. 2019
- Qin, Y., Zheng, H., Huang, X., Yang, J., Zhu, Y.M., Pulmonary Nodule Segmentation with CT Sample Synthesis using Adversarial Networks, *Medical Physics*. 2018

SELECTED CONFERENCE PAPERS

- Qin, Y., Li, G., Li, Z., Xu, Z., Shi, Y., Lin, Z., ... and Sun, X., Incentivizing Reasoning for Advanced Instruction-Following of Large Language Models, *Advances in Neural Information Processing Systems (NeurIPS)*. 2025
- Cui, X., Qin, Y.*, Gao, Y., Zhang, E., Xu, Z., Wu, T., ... and Li, H., Sinkhorn Distance Minimization for Knowledge Distillation, *Proceedings of the Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING)*. 2024
- Qin, Y., Chen, X., Shen, Y., Fu, C., Gu, Y., Li, K., ... and Ji, R., CAPro: Webly Supervised Learning with Cross-modality Aligned Prototypes, *Advances in Neural Information Processing Systems (NeurIPS)*. 2023
- Qin, Y., Chen, X., Chen, C., Shen, Y., Ren, B., Gu, Y., ... and Shen, C., FoPro: Few-shot Guided Robust Webly-supervised Prototypical Learning, *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*. 2023
- Qin, Y., Zheng, H., Gu, Y., Huang X., Yang, J., Wang, L., Zhu, Y.M., Learning Bronchiole-Sensitive Airway Segmentation CNNs by Feature Recalibration and Attention Distillation, *International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)*. 2020
- Qin, Y., Gu, Y., Zheng, H., Chen, M., Yang, J., Zhu, Y.M., AirwayNet-SE: A Simple-Yet-Effective Approach to Improve Airway Segmentation Using Context Scale Fusion, *IEEE International Symposium on Biomedical Imaging (ISBI)*. 2020
- Qin, Y., Chen, M., Zheng, H., Gu, Y., Shen, M., Yang, J., Huang, X., Zhu, Y.M., Yang, G.Z., AirwayNet: A Voxel-Connectivity Aware Approach for Accurate Airway Segmentation Using Convolutional Neural Networks, *International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)*. 2019
- Qin, Y., Zheng, H., Zhu, Y.M., Yang, J., Simultaneous Accurate Detection of Pulmonary Nodules and False Positive Reduction Using 3D CNNs, *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. 2018