Qifeng Zhou

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Education

University of Texas at Arlington, *Ph.D. student in Computer Science (GPA 4.0/4.0)* Sept. 2022 – Now
- Supervisor: Dr. Junzhou Huang

Zhejiang University, *BS in Chu Kochen Honors College (Rank Top5%)* Sept. 2018 – June 2022

Publications

[1] **Qifeng Zhou**, Wenliang Zhong, Yuzhi Guo, Michael Xiao, Hehuan Ma, and Junzhou Huang, "PathM3: A Multimodal Multi-Task Multiple Instance Learning Framework for Whole Slide Image Classification and Captioning", **MICCAI 2024**.

[2] **Qifeng Zhou**, Thao M Dang, Yuzhi Guo, Hehuan Ma, Wenliang Zhong, Saiyang Na, Jean Gao, and Junzhou Huang, "Contrastive Pretraining for Computational Pathology With Visual Language Models", **ISBI 2025**.

[3] **Qifeng Zhou**, Thao M Dang, Wenliang Zhong, Yuzhi Guo, Hehuan Ma, Saiyang Na, Haiqing Li, Junzhou Huang, "MLLM4PUE: Toward Universal Embeddings in Digital Pathology through Multimodal LLMs".

[4] Thao M. Dang, **Qifeng Zhou**, Yuzhi Guo, Hehuan Ma, Saiyang Na, Thao Bich Dang, Jean Gao, and Junzhou Huang, "Abnormality-Aware Multimodal Learning for WSI Classification", **Frontiers in Medicine**.

[5] Thao M. Dang, Yuzhi Guo, Hehuan Ma, **Qifeng Zhou**, Saiyang Na, Jean Gao, and Junzhou Huang, "MFMF: Multiple Foundation Model Fusion Networks for Whole Slide Image Classification", **ACM BCB 2024**.

Research Projects

MLLM-based foundation model for pathology data Sept. 2024 - Feb. 2025
- Built a foundation model based on LLaVA-Next for pathology data, surpassing SOTA methods in **15 datasets**.
- Employed prompts to guide the MLLM for representation learning and used LoRA to fine-tune MLLM with pathology image-text pairs.
- Introduced a comprehensive benchmark designed to assess the quality of pathology multimodal embeddings.
- Publish a research paper to ISBI 2025 and submit a research paper to ICCV 2025

Spatial Transcriptomics data guided pathology image representation learning Dec. 2024 - Feb. 2025
- Proposed a framework that integrates Spatial Transcriptomics data into the pathology image encoder directly via cross-attention and outperformed SOTA methods in **6 datasets across 3 different tasks**.
- Introduced a hierarchical clustering strategy to aligns image-gene pairs across local and global levels.
- Submit a research paper to MICCAI 2025

Multimodal foundation model integrating for WSI classification Apr. 2024 - July 2024
- Developed a framework integrating image, cell, and text foundational models to enhance WSI classification, improving **AUC score to 98.15** in TCGA and Camelyon16 dataset.
- Introduced a three-step cross-attention module to integrate multimodal features.
- Designed an abnormality-aware module based on auto-encoder to identify abnormal instances.
- Published a research paper to ACM BCB 2024 and a research paper to Frontiers in Medicine.

Multi-instance image-text learning for WSI classification and captioning Nov. 2023 - Feb. 2024
- Developed a multimodal, multi-task MIL framework for WSI classification and captioning, improving **5% accuracy and 0.2 BLEU scores** with SOTA method.
- Developed a correlation module to reduce redundancy and a query-based transformer to align WSIs with texts.
- Published a research paper to MICCAI 2024

Technologies

Python, C/C++, Pytorch, Scikit-learn, OpenCV, Scikit-Image, Hugging Face, Git, Shell, DDP, Openslide