Jingyun YANG

Curriculum Vitæ

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RESEARCH INTERESTS

My research is primarily focused on developing visual analysis methods to assist clinicians in processing and understanding medical data, including images, point cloud and radiology reports. I have proposed methods that exploit task correlations in common medical processing tasks, such as generation, segmentation, classification, and localization. With the emergence of large models, I am currently working on adapting foundation models to various medical segmentation tasks with few-shot samples, combining reinforcement learning and active learning. My subject areas encompass medical imaging modalities including MRI, CT, X-ray, and ultrasound, as well as anatomical regions including the brain, heart, liver, chest, and lung among others.

EDUCATION

Tsinghua University — **Shenzhen, CHINA**
Sep. 2020 - Present

- Tsinghua-Berkeley Shenzhen Institute (TBSI)
- Fifth-year Ph.D. student (Expected: Mar. 2026)
- Advisor: Prof. Yang Li, yangli@sz.tsinghua.edu.cn.

University of Electronic Science and Technology of China — **Chengdu, CHINA**
Sep. 2016 - Jun. 2020

- School of Computer Science
- Yingcai Honors College of UESTC

MAIN PROJECTS (FIRST AUTHOR)

"Hierarchical Feature Learning for Medical Point Clouds via State Space Model" (Early Accepted)
***Guoqing Zhang, Jingyun Yang**, Yang Li.* — *MICCAI - 2025*

- Proposed an SSM-based hierarchical feature learning framework for medical point cloud understanding.
- Constructed a large-scale medical point cloud dataset (MedPointS) for anatomy classification, completion, and segmentation.

"Federated Auxiliary Learning for Few-shot Generalization on Medical Data"
***Jingyun Yang**, Guoqing Zhang, Jingge Wang, Yang Li.* — *Under Review - 2025*

- Introduced a federated auxiliary learning paradigm to leverage existing clients for newly joined few-shot medical segmentation tasks.

"Learning What is Worth Learning: Active Domain Adaptation for Multi-modal Gross Tumor Volume Segmentation" (Spotlight)
***Jingyun Yang**, Guoqing Zhang, Jingge Wang, Yang Li.* — *HAIC - 2025*

- Proposed a source-free domain adaptation framework with an active query strategy for advancing gross tumor volume segmentation on multi-modal data.

"Adapting Foundation Model for Few-Shot Medical Image Segmentation: Actively and Sequentially" (Oral)
***Jingyun Yang**, Guoqing Zhang, Jingge Wang, Yang Li.* — *ISBI - 2025*

- Proposed a novel framework that incorporates auxiliaries to adapt foundation models to various medical segmentation tasks in a single-round fine-tuning.
- Designed an efficient reward function and applied the multi-armed bandit algorithm to dynamic data selection through the framework.

"Graph-guided Sequential Transfer for Medical Image Segmentation" (IEEE-Student Award)
***Jingyun Yang**, Guoqing Zhang, Jingge Wang, Yang Li.* — *BIBM - 2024*

- Proposed a graph-based sequential transfer path selection strategy to enhance target task performance.
- Identified the most informative and representative source task for the given target task by fully exploring the characteristics of medical image segmentation tasks.

"Selecting the Best Sequential Transfer Path for Medical Image Segmentation with Limited Labeled Data"
Jingyun Yang, *Jingge Wang, Guoqing Zhang, Yang Li.* *ICONIP - 2024*

- Proposed a task affinity estimation metric to identify the most beneficial source tasks.
- Applied a sequential transfer learning pipeline tailored for medical image processing.

"Investigating Consistency Constraints in Heterogeneous Multi-task Learning for Medical Image Processing"
Jingyun Yang, *Yicong Li, Yang Tan, Heng Liu, Yang Li.* *BIBM - 2023*

- Introduced a bi-level multi-task learning consistency regularization scheme: task-level output consistency and feature-level representation consistency, addressing the problem of inconsistent task-specific predictions.

"Joint PVL Detection and Manual Ability Classification Using Semi-supervised Multi-task Learning"
Jingyun Yang, *Jie Hu, Yicong Li, Heng Liu, Yang Li.* *MICCAI - 2021*

- Exploited the correlation between PVL lesion segmentation and manual ability classification to improve the identification performance of both tasks.
- Proposed a semi-supervised multi-task learning framework to jointly learn from heterogeneous datasets.

Honors and Awards

- **IEEE BIBM'24 Stuent Travel Award**, IEEE BIBM 2024. *Dec. 2024.*
- **Second Prize**, Tsinghua University Department-level Excellent Scholarship. *Oct. 2024,2022.*
- **Academic Scholarship**, TBSI Leaders of Tomorrow Scholarships. *2023,2022,2021.*
- **Honorable Mention** (Top 40%), 2018 COMAP's Mathematical Contest in Modeling® (MCM). *Feb. 2018.*
- **First Prize** (Only one team), 2018 UESTC's Mathematical Contest in Modeling. *Dec. 2017.*
- **Global 81st Place** (Top 4%), IEEEXtreme Programming Competition 11.0. *Oct. 2017.*

Skills

Language	TOFEL 105, CET-4 621, CET-6 605
Programming	Python, C/C++, JAVA, Javascript, Verilog, VHDL, Matlab/Octave
Protocols & APIs	XML, JSON, RESTful, GraphQL
Library	Pytorch, TensorFlow (Keras), Qt, scikit-learn, SciPy (NumPy, Matplotlib, pandas, ...)
Frameworks	React, React Native, Vue.js
Tools	LaTeX, git, ssh, vim, Xilinx Vivado, Kali Linux, curl, Keybase, ...
Databases	MySQL, MongoDB, Redis
Platforms	Windows, Linux, Docker, Desktop, Web, iOS/Android

Links

Blog	https://yakult.fun
GitHub	https://github.com/Hiyoochan
Codeforces	https://codeforces.com/profile/kotete
Google Scholar	Jingyun Yang