

Yu CAI

+86 15623739837 ◇ yu.cai@connect.ust.hk

PhD Candidate @ HKUST

Hong Kong SAR, China

EDUCATION

The Hong Kong University of Science and Technology (HKUST)	2022.08 - present
Pursing Ph.D. in Electronic and Computer Engineering.	CGA: 3.94/4.3
Advised by Prof. Kwang-Ting Cheng (IEEE Fellow) & Prof. Hao Chen	
Huazhong University of Science and Technology (HUST)	2018.09 - 2022.06
B.Eng. in Electronic and Information Engineering. (Excellent Engineer Program)	GPA: 3.93/4.0
Outstanding Undergraduate Thesis: Research on Unsupervised Anomaly Detection in Chest X-Rays.	
Advised by Prof. Xin Yang	

RESEARCH TOPICS

Anomaly Detection in Medical Images; Histopathology Whole Slide Image Classification.

PUBLICATION

1. **Yu Cai**, Hao Chen, Kwang-ting Cheng. “Rethinking Autoencoders for Medical Anomaly Detection from A Theoretical Perspective.” *The 27th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2024.
2. **Yu Cai**, Hao Chen, Xin Yang, Yu Zhou, Kwang-ting Cheng. “Dual-distribution discrepancy with self-supervised refinement for anomaly detection in medical images.” *Medical Image Analysis*, 2023. (**MedIA, IF: 13.828**)
3. **Yu Cai**, Hao Chen, Xin Yang, Yu Zhou, Kwang-ting Cheng. “Dual-Distribution Discrepancy for Anomaly Detection in Chest X-Rays.” *The 25th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2022. Early Accept (Acceptance rate: 13%).

PREPRINT

1. **Yu Cai**, Weiwen Zhang, Hao Chen, Kwang-ting Cheng. “MedIANomaly: A comparative study of anomaly detection in medical images.” *arXiv:2404.04518*, 2024. [Submitted to **MedIA**]

COMPETITION

2021 APTOS Big Data Competition	2021.09 - 2021.12
Designed a Multiple-Instance Learning (MIL) algorithm for Prediction on DME Patients’ Response to Anti-VEGF Treatment. Ranked 12/10006.	

TEACHING ASSISTANT

ELEC3120 Computer Communication Networks	Fall 2023
ELEC5680 Advanced Deep Learning Architectures	Spring 2023

SELECTED AWARDS

HKUST Postgraduate Studentship	2022-2026
HKUST RedBird PhD Award	2022-present
Honours Bachelor Degree (Top 2%)	2022.06
Outstanding Undergraduate Thesis (Top 2%)	2022.06
National Scholarship (Top 2%)	2021.11
National Scholarship (Top 2%)	2020.11
Outstanding Undergraduate in terms of Academic Performance (Top 1%)	2020.11