

Yu CAI

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EDUCATION

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

RESEARCH TOPICS

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

PUBLICATION

- 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**]
- Yu Cai**, Hao Chen, Kwang-ting Cheng. “Rethinking Autoencoders for Medical Anomaly Detection from A Theoretical Perspective.” *arXiv:2403.09303*, 2024. [Submitted to **MICCAI’2024**]
- 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**)
- 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%).

COMPETITION

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

Programming: Python, PyTorch.
English: TOEFL 91 (R29+L18+S20+W24)

SELECTED AWARDS

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