

# YE ZHU

☎ +862 6159-3703 ✉ csyzhu@comp.hkbu.edu.hk 📄 <https://zhuye98.github.io/> 🌐 <https://github.com/zhuye98>

## Education

### Hong Kong Baptist University

*Pre-candidacy PhD student in Computer Science*

Sep. 2023 – now

*Hong kong, China*

### South China Agricultural University

*Bachelor of Engineering in Software Engineering*

Sep. 2017 – June 2021

*Guangzhou, China*

## Research Experiments

### Symptom Disentanglement in Chest X-ray Images for Fine-Grained Progression Learning

Ye Zhu, Jingwen Xu, Fei Lyu, Pong C. Yuen\*

June 2024, MICCAI 2024 (accept)

- Proposed two consecutive modules namely Symptom Disentangler (SD) and Symptom Progression Learner (SPL) to learn from static diagnosis to dynamic disease development.
- Experimental results on the public dataset Chest ImaGenome show superior performance compared to current state-of-the-art method.

### Temporal Neighboring Multi-modal Transformer with Missingness-Aware Prompt for Hepatocellular Carcinoma Prediction

Jingwen Xu, Ye Zhu, Fei Lyu, Grace Lai-Hung Wong, Pong C. Yuen\*

June 2024, MICCAI 2024 (accept)

- Proposed a Temporal Neighboring Multi-modal Transformer with Missingness-Aware Prompt (TNformer-MP) to integrate clinical time series and available CT scans for HCC prediction.
- Experiments conducted on a largescale multimodal datasets of 36,353 patients show that our method achieves superior performance with existing methods.

### Inherent Consistent Learning for Accurate Semi-supervised Medical Image Segmentation

Ye Zhu, Jie Yang, Siqi Liu and Ruimao Zhang\*

March 2023, MIDL 2023 (accept, **Oral**)

- Propose a novel Inherent Consistent Learning (ICL) method, which aims to learn robust semantic category representations through the semantic consistency guidance of labeled and unlabeled data to help segmentation.
- Conducted extensive evaluations on three medical image segmentation datasets (2D and 3D), outperforming the state-of-the-art methods with a large margin.

### Toward Unpaired Multi-modal Medical Image Segmentation via Learning Structured Semantic Consistency

Jie Yang, Ye Zhu, Chaoqun Wang, Zhen Li and Ruimao Zhang\*

March 2023, MIDL 2023 (accept)

- Proposed a novel method for performing unpaired multi-modal medical image segmentation based on a single Transformer by learning the structured semantic consistency between modalities.
- Collaborated in conducting extensive evaluations on two medical image segmentation scenarios, outperforming the state-of-the-art methods with a large margin.

### AMOS: A Large-Scale Abdominal Multi-Organ Benchmark for Versatile Medical Image Segmentation

Yuanfeng Ji, Haotian Bai, Jie Yang, Chongjian Ge, Ye Zhu, Xiang Wan\*, Ping Luo\* and Ruimao Zhang\*

April 2022, NeurIPS 2022 (accept, **Oral**)

- Built a new large-scale, diverse, and clinical abdominal organ segmentation dataset of 600 CT/MRI scans, namely AMOS, which is comprehensive with 15 organs, and is the largest dataset of its kind.
- Collaborated in benchmarking current baseline methods on this newly built dataset with various evaluation metrics, and designed extended experiments to validate that AMOS could serve as a versatile dataset for multiple learning tasks.

### Toward Clinically Assisted Colorectal Polyp Recognition via Structure Cross-modal Representation Consistency

Weijie Ma, Ye Zhu, Jie Yang, Yiwen Hu, Zhen Li, Li Xiang and Ruimao Zhang\*

February 2022, MICCAI 2022 (early accept, top 13%) .

- Proposed a novel Transformer-based framework is introduced to tackle WL-only CPC, which proposed the Cross-modal Global Alignment (CGA) and a newly designed Spatial Attention Module (SAM) to pursue the structured semantic consistency.
- Collaborated in conducting extensive evaluations on CPC-Paired Dataset with two paired image modalities (WL-NBI).

### **Hybrid-Order Anomaly Detection on Attributed Networks**

Ling Huang, **Ye Zhu**, Yuefang Gao, Tuo Liu, Chao Chang, Caixing Liu, Yong Tang and Chang-Dong Wang\*

**July 2021, TKDE 2021 (early accept)**

- Defined a new problem of hybrid-order anomaly detection on attributed networks, which aims to detect not only structure/attribute-abnormal nodes but also structure/attribute-abnormal motif instances.
- Developed a new deep learning model called Hybrid-Order Graph Attention Network (HO-GAT) and conducted extensive experiments on real-world datasets, confirming the effectiveness of the HO-GAT method.

### **Programming Skills**

---

**Programming Languages:** Python, Java, C

**Developer Tools:** VS Code, Eclipse, Pycharm

**Technologies/Frameworks:** Linux, GitHub

### **Additional Information**

---

**Languages:** Cantonese (Native), Mandarin (Native), English (Proficient)