

Xiaolong Huang

🏠 rainbow-xiao.github.io ✉ hirox827@gmail.com 🌐 github.com/rainbow-xiao

EDUCATION

Chongqing University of Technology

Bachelor of Engineering, Intelligent Science and Technology

Chongqing, China

2019-2023

- Third year GPA: 87.1/100, top 10%; Overall GPA: 84.2/100, top 30%

PUBLICATIONS

- One step Learning, One step Review
Xiaolong Huang, Qiankun Li, Xueran Li, Gao Xuesong
AAAI, 2024 (Accepted)
- Mitigating Context Bias in Action Recognition via Skeleton-Dominated Two-Stream Network
Qiankun Li, **Xiaolong Huang**, YuWen Luo, Xiaoyu Hu, sun Xinyu, Zengfu Wang
AMC-SME Workshop, **ACMMM** 2023 (**Best Student Paper Award**)
- Data-Efficient Masked Video Modeling for Self-supervised Action Recognition
Qiankun Li, **Xiaolong Huang**, Zhifan Wan, Lanqing Hu, Shuzhe Wu, Jie Zhang, Shiguang Shan, Zengfu Wang
ACMMM 2023
- Embracing Large Natural Data: Enhancing Medical Image Analysis via Cross-domain Fine-tuning
Qiankun Li, **Xiaolong Huang**, Bo Fang, Huabao Chen, Siyuan Ding, Xu Liu
JBHI 2023 (Accepted)
- LABANet: Lead-Assisting Backbone Attention Network for Oral Multi-Pathology Segmentation
Huabao Chen, **Xiaolong Huang**, Qiankun Li and Jianqing Wang, and Bo Fang, and Junxin Chen
ICASSP 2023
- 2nd Place Solution to Google Universal Image Embedding
Xiaolong Huang, Qiankun Li
ILR Workshop, **ECCV** 2022 (**Oral**)

HONORS AND AWARDS

Kaggle [[Personal Profile](#)]

- Competition tier: **Competition Master**
- Competition Awards: 2 **gold** medals (2/2 solo); 4 **silver** medals (1/4 solo); 1 **bronze** medal. Team leader of all competitions
- Competition Ranks: Current rank: **176**/213103, top 0.08%; Highest rank: **77**/216576, top 0.036%
- Selected Competition Awards:
 - * Google Universal Image Embedding Challenge (ILR Workshop, **ECCV** 2022)
2/1022, **\$10,000** bonus, **gold** medal (solo)
This work is invited as **oral** presentation at ILR Workshop, **ECCV** 2022
 - * Stable Diffusion - Image to Prompts Challenge
8/1231, **gold** medal (solo)

Others Honors and Awards

- **2nd** place in OOD-CV Challenge 2023, Classification Track - Self-supervised pretrain. (OOD-CV workshop, **ICCV** 2023)
- **3rd** place in OOD-CV Challenge 2023, Classification Track - ImageNet-1k. (OOD-CV workshop, **ICCV** 2023)
- **3rd** place in ACCV 2022 Fine-grained Image Analysis Challenge. (OOD-CV workshop, **ACCV** 2023)
- Second Prize Scholarships, 2021-2022
- Third Prize Scholarships, 2020-2021

RESEARCH EXPERIENCE

Collaborative Research

collaborator: Qiankun Li (Ph.D.)

University of Science and Technology of China

March. 2022 - Present

Advisor: Prof. Zengfu Wang

Chinese Academy of Sciences

- Mainly focused on self-supervised learning and visual fine-tuning.
- (AAAI 2024): Revealed a delay defect of traditional weight decay. Proposed to mitigate knowledge forgetting during fine-tuning by introducing a real-time knowledge review method. This method performs reviewing by encouraging the current model weights to approach the pre-trained model weights.
- (AMC-SME Workshop, ACMMM 2023, **Best Student Paper Award**): Built a two-stream deep neural network for video action recognition enhancements, which fuses the skeleton and RGB modalities to mitigate context bias.
- (ACMMM 2023): Proposed a data-efficient self-supervised video representation learning method based on masked video modeling, which shows impressive improvements on downstream tasks while needing substantially fewer computational resources compared to other approaches.

Domain Transformer for Visual Fine-Tuning (Bachelor's Thesis)

Advisor: Prof. Hanguang Xiao

Jan. 2023 - Jun. 2023

Chongqing University of Technology

- Proposed a novel domain transformer module for visual fine-tuning, which transfers the original distribution of the feature embeddings into the target distribution by tailoring a linear transformation for each feature embedding while keeping the backbone frozen.
- (JBHI 2023): Further applied domain transformer to medical image analysis. With two-stage training, domain transformer demonstrates more significant improvements.

Intelligent Dental Disease Recognition System

Advisor: Prof. Junxin Chen

Mar. 2022 - Mar. 2023

Shanghai, China

- Leader of the recognition group. Aided in diagnosing and analysing various dental diseases using AI technology. This was one of the first attempts to recognize multiple dental diseases at the instance level.
- Established a multi-class dental disease instance segmentation dataset, where each type of dental disease is annotated at the instance level with corresponding labels, bounding boxes, and masks.
- (ICASSP 2023): Designed an instance segmentation network along with other training strategies to improve the performance of detecting and segmenting multiple dental diseases.

PATENTS

- A Deep Learning-based technique for Panoramic Oral Multi-Lesion Instance Segmentation
Jianqing Wang, Xiaolong Huang, Qiankun Li, Yunfei Wu, Mengting He
Under review