Xiaolong Huang

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EDUCATION

Chongqing University of Technology   Chongqing, China
Bachelor of Engineering, Intelligent Science and Technology   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

- 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

- 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

- 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

HONORS AND AWARDS

Honors and Awards
- Win a total of 7 medals, including bronze and higher in Kaggle programing competitions.
- 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 Scholarship, 2021-2022
- Third Prize Scholarship, 2020-2021

PROJECT EXPERIENCE

Self-supervised Training and Visual Fine-tuning   March. 2022 - Dec. 2023
- (AAAI 2024): Revealed a delay defect of traditional weight decay. Proposed to perform knowledge reviewing by encouraging the current model weights to approach the pre-trained model weights during fine-tuning.
- (AMC-SME Workshop, ACMMM 2023): Built a two-stream model for video action recognition enhancements, which fuses the skeleton and RGB modalities to mitigate background bias.
- (ACMMM 2023): Proposed a data-efficient self-supervised video representation training method based on masked video modeling, which reduces pre-training costs while demonstrating impressive improvements in downstream tasks.

Domain Transformer for Visual Fine-Tuning (Bachelor's Thesis)   Jan. 2023 - Jun. 2023

- Proposed a 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 strategy, domain transformer demonstrates more significant improvements.

Intelligent Dental Disease Recognition System Mar. 2022 - Mar. 2023

- Leader of the recognition group. Aided in diagnosing and analysing various dental diseases using instance segmentation models.
- 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 model to improve the performance of detecting and segmenting multiple dental diseases.

PATENTS

- A Deep Network Method for Panoramic Oral Multi-Lesion Instance Segmentation
  Jianqing Wang, **Xiaolong Huang**, Qiankun Li, Yunfei Wu, Mengting He
  Under review