QIXIN HU

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Department of Computer Science and Engineering,

The Chinese University of Hong Kong, Hong Kong.

EDUCATION

Huazhong University of Science and Technology, M.Sc. *2020 - 2023*

• Research Interests: computer vision, medical image analysis, 3D vision. *Wuhan, China*

Huazhong University of Science and Technology, B.Sc. *2016 - 2020*

• GPA: 3.90/4.00 *Wuhan, China*

PUBLICATIONS

5. **Qixin Hu**, Alan L. Yuille, Zongwei Zhou. *"Synthetic Data as Validation."* Submmited to The International Conference on Learning Representations (**ICLR**) 2024.

   [Paper] [Code]

4. Jiacong Xu, ..., **Qixin Hu**, et al. *"Animal3D: A Comprehensive Dataset of 3D Animal Pose and Shape."* The IEEE/CVF International Conference on Computer Vision (**ICCV**) 2023.

   [Paper] [Code] [Project]

3. **Qixin Hu**, Yixiong Chen, Junfei Xiao, Shuwen Sun, Jie-Neng Chen, Alan L. Yuille, Zongwei Zhou. *"Label-Free Liver Tumor Segmentation."* The IEEE/CVF Computer Vision and Pattern Recognition Conference (**CVPR**) 2023.

   GitHub Stars: 200+

   [Paper] [Code] [Slides] [Poster] [Zongwei's Talk] [Alan's Talk] [My Talk]

2. **Qixin Hu**, Junfei Xiao, Yixiong Chen, Shuwen Sun, Jie-Neng Chen, Alan L. Yuille, Zongwei Zhou. *"Synthetic Tumors Make AI Segment Tumors Better."* Medical Imaging meets Neural Information Processing Systems **(NeurIPSW)** 2022.

   [Paper] [Code]

1. **Qixin Hu**, Siyan Xu, Xue-wen Chen, et al. *"Object Recognition for Remarkably Small Field-of-view with Speckles."* Applied Physics Letters **(APL)** 2021.

   [Paper]

RESEARCH EXPERIENCE

Foundation Models on Medical Image, CUHK *Hong Kong, China*

Advisor: Prof. Dou Qi *Sep. 2023 – Now*

- **Achievement:** Rank **top 0.5% (4/847)** in a competition of Foundation Models in medical imaging.

Label-efficient Learning Methods, Johns Hopkins University *Baltimore, United States*

Advisors: Prof. Alan L. Yuille & Dr. Zongwei Zhou *June 2022 – Now*

- **Achievements:** NIPSw 2022, CVPR 2023, ICCV 2023, ICLR 2024.

3D Vision on Human Reconstruction, Tsinghua University *Beijing, China*

Advisors: Prof. Yebin Liu *June 2021 – Sep. 2021*

- **Research Intern**. Image-based 3D human reconstruction (NeRF, PiFu, etc.).

Object Recognition with Small Field-of-View, HUST *Wuhan, China*
Advisors: Prof. Xinggang Wang *Sep. 2020 – June 2021*

- **Achievement:** APL 2021.

National Student Inno. and Entre. Training Program, HUST *Wuhan, China*
Advisors: Prof. Ming Yang *April 2019 – April 2020*

- **Team Leader:** We took advantage of Chua's circuit to build a real random number generator.

SELECTED AWARDS

2022 **First Class Zhixing Outstanding Student Scholarship,**
2021 **Outstanding Graduate Student,**
2020 **Honored Undergraduates,**
2018 **National Encouragement Scholarship,**

INVITED TALKS AND PRESENTATIONS

6. Label-efficient, Multi-functional AI System for Medical and Healthcare.
   The Chinese University of Hong Kong. *Nov. 2023*
5. CLIP-Driven Universal Model for Organ Segmentation and Tumor Detection.
   AI Journal Club. *July 2023*
4. Label-free Liver Tumor Segmentation.
   NIPSW/CVPR/VALSE/MICS. *Feb. 2023 – June 2023*
3. Synthetic Tumors Make AI Segment.
   Johns Hopkins University. *Oct. 2022*
2. Non-line-of-sight Object Recognition with Coherent Illumination.
   IBPE, Huazhong University of Science and Technology. *Sep. 2022*
1. Random Number Generation System Based on Chai's Circuits.
   Hubei University. *April 2020*

MISCELLANEOUS

Professional Activities

- Reviewer of ICML Workshop on Interpretable Machine Learning in Healthcare (IMLH 2023)

Professional Memberships

- Member of the Institute of Electrical and Electronics Engineers (IEEE, since 2022)
- Member of the Computer Vision Foundation (CVF, since 2022)

Software

- Label-Free Liver Tumor Segmentation (CVPR 2023)
  GitHub: https://github.com/MrGiovanni/SyntheticTumors

Leaderships

- Team Leader of National Student Innovation and Entrepreneurship Training Program, HUST. 2019-2020.
- Leading Members of the Innovative Base of Physics Experiment, HUST. 2018-2020.