YIXUAN WU

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No.866, Yuhangtang Road, Hangzhou, Zhejiang, China, 310058

Research Interests: Multi-modal Learning, Computer Vision, Medical Data

Education

Zhejiang University   **Sep 2021 – June 2026 (Expected)**
Ph.D. in Big Data Science, Advisors: Prof. Jian Wu, Danny Z. Chen (Notre Dame)   *Hangzhou, Zhejiang*

Yale University   **June 2019 – Sep 2019**
Visiting student in Biostatistics, Advisors: Prof. Vasilis Vasiliou, Hongyu Zhao   *New Haven, CT*

Zhejiang University   **Sep 2017 – June 2021**
Bachelor of Science, Advisor: Prof. Haimin Xu, GPA: 3.8/4.0   *Hangzhou, Zhejiang*

Publications

- **Yixuan Wu**, Yizhou Wang, Shixiang Tang, Wenhao Wu, Tong He, Wanli Ouyang, Jian Wu, Philip Torr. *DetToolChain: A New Prompting Paradigm to Unleash Detection Ability of MLLM*. In ECCV, 2024.

- **Yixuan Wu**, Kaiyuan Hu, Danny Z. Chen, Jian Wu. *AI-Enhanced Virtual Reality in Medicine: A Comprehensive Survey*. In IJCAI, 2024 (**Oral**).

- **Yixuan Wu**, Kaiyuan Hu, Qian Shao, Jintai Chen, Danny Z. Chen, Jian Wu. *TeleOR: Real-time Telemedicine System for Full-Scene Operating Room*. In MICCAI, 2024.

- **Yixuan Wu**, Zhao Zhang, Xie Chi, Feng Zhu, Rui Zhao. *Advancing Referring Expression Segmentation Beyond Single Image*. In ICCV, 2023.

- **Yixuan Wu**, Jintai Chen, Jiahuan Yan, Yiheng Zhu, Danny Z. Chen, Jian Wu. *GCL: Gradient-Guided Contrastive Learning for Medical Image Segmentation with Multi-Perspective Meta Labels*. In ACMMM, 2023 (**Oral**).

- **Yixuan Wu**, Bo Zheng, Jintai Chen, Danny Z. Chen, Jian Wu. *OneSeg: Self-learning and One-shot Learning based Single-slice Annotation for 3D Medical Image Segmentation*. In MICCAI, 2022 (**Oral**).

- **Yixuan Wu**, Kuanlun Liao, Jintai Chen, Jinhong Wang, Danny Z. Chen, Honghao Gao, Jian Wu. *D-Former: A U-shaped Dilated Transformer for 3D Medical Image Segmentation*[J]. In Neural Computing and Applications, 2023.

- Yizhou Wang*, **Yixuan Wu***, Shixiang Tang, Weizhen He, Xun Guo, Feng Zhu, Lei Bai, Rui Zhao, Jian Wu, Tong He, Wanli Ouyang. *Hulk: A Universal Knowledge Translator for Human-Centric Tasks*. Under review in TPAMI.

- Chi Xie*, Zhao Zhang*, **Yixuan Wu***, Feng Zhu, Rui Zhao, Shuang Liang. *Described Object Detection: Liberating Object Detection with Flexible Expressions*. In NeurIPS, 2023.

Internships

Shanghai AI Laboratory | *Advisor: Prof. Wanli Ouyang*   **April 2023 – Present**
- Focused on Vision-Language Foundation Model.
- Developed an encoder-decoder-based large foundation model to unify various 2D and 3D vision-language tasks, e.g., detection, parsing, attribute recognition, action recognition, and mesh recovery.

SenseTime Research | *Advisors: Prof. Rui Zhao, Feng Zhu*   **Sep 2022 – March 2023**
- Focused on Universal Vision-Language Model.
- Created a multi-modal detection/segmentation dataset named D^3 with class names characterized by intricate and flexible long expressions (traditional dataset's class names are simple nouns instead).
- Extended traditional Referring expression segmentation (RES) task to real-world scenarios where images are clustered and negative samples exist, and proposed a baseline method for this new setting (GRES).

IFLYTEK Research | *Vision Algorithm Engineer*   **April 2021 – Sep 2021**
- Deployed object detection algorithmic models to internal platforms, and maintained large-scale clusters of platforms.

DiDi Global Inc. | *Medical Data Analyst*   **Sep 2020 – March 2021**
- Used SQL for structural data operation, and Python for medical data mining and analysis, providing decision support for operating department.

Leadership

Dance Sports Association   **Sep 2018 – Sep 2020**
President, Captain   *Zhejiang University*
- As the president, organized to hold monthly club activities, i.e., Christmas Dance Party, Sports-Dance Training, etc.
- As the captain of Latin Dance Team, led the team to participate in national competitions and had won the first prize.

Skills

English: TOEFL 110, CET-6, CET-4

Programming: Python, Java, C, HTML/CSS, R, SAS, SPSS, SQL