WENSHENG CHENG

Computer Science Department, Stony Brook University, New York, United States.

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RESEARCH INTERESTS

Image and video understanding, weakly supervised learning, generative models.

EDUCATION

Stony Brook University, New York, USA   2020 - present
Ph.D. student, Computer Science
Advisor: Prof. Haibin Ling

Wuhan University, Wuhan, China   2017 - 2020
M.S., Information and Communication Engineering
Advisor: Prof. Wen Yang

Wuhan University, Wuhan, China   2013 - 2017
B.E., Electronic and Information Engineering   Rank: 4/120

RESEARCH EXPERIENCE

Stony Brook University   2020 - present
Research Assistant
Advisor: Prof. Haibin Ling
Topic: Multiple object tracking, weakly supervised learning, medical image processing

Signal Processing Lab of Wuhan University, Wuhan, China   2016/09 - 2020/06
Research Assistant
Advisor: Prof. Wen Yang
Topic: Semantic segmentation

DUKE KUNSHAN University, Kunshan, China   2017/07 - 2017/08
Duke-Tsinghua Machine Learning Summer School
Advisors: Prof. Lawrence Carin and Prof. Jun Zhu

INTERN EXPERIENCE

Bloomberg, New York, USA   2025/06 - present
Research and Develop Intern - CTO Office
• Developing video-based security analytics tools leveraging deep learning and computer vision.

Wormpex AI Research, Seattle, USA   2022/05 - 2022/08
Research Intern, Mentor: Yi Wu, Gang Hua
• Research on weakly supervised multiple object tracking and segmentation (IEEE TIP 2024).

United Imaging Intelligence, Shanghai, China   2021/02 - 2021/07
Research Intern, Mentor: Fan Yang
• Research on generic multiple object tracking and few shot learning.

COMPETITIONS

1. **Ranked 6th internationally**, The ICRA RoboMaster Mobile Manipulation Challenge, 2017

2. **National Second-class Prize**, China Graduate Eletronic Design Contest, 2017

3. **National Third-class Prize**, Intel Cup Undergraduate Eletronic Design Contest-Embedded System Design Invitational Contest, 2016

4. **The First-class Prize** in Hubei province, National Undergraduate Eletronic Design Contest, 2015

PUBLICATIONS

1. Data generation based on diffusion models for biomedical images. Ongoing project.

2. **Wensheng Cheng**, Zhenghong Li, Jiaxiang Ren, Hyomin Jeong, Congwu Du, Yingtian Pan, Haibin Ling. Blood Flow Speed Estimation with Optical Coherence Tomography Angiography Images. **CVPR**, 2025.

3. Zhenghong Li, Jiaxiang Ren, **Wensheng Cheng**, Congwu Du, Yingtian Pan, Haibin Ling. Sparse Reconstruction of Optical Doppler Tomography with Alternative State Space Model and Attention. **MICCAI**, 2025. (Early Accept)

4. **Wensheng Cheng**, Yi Wu, Zhenyu Wu, Haibin Ling, Gang Hua. Towards High Quality Multi-Object Tracking and Segmentation without Mask Supervision. **IEEE Transactions on Image Processing**, 2024.

5. Xu Lei, **Wensheng Cheng**, Chang Xu, Wen Yang. Joint target and background temporal propagation for aerial tracking. **ISPRS Journal of Photogrammetry and Remote Sensing**, 2024.

6. Jiaxiang Ren, Zhenghong Li, **Wensheng Cheng**, Zhilin Zou, Kicheon Park, Yingtian Pan, Haibin Ling. Self-supervised 3D Skeleton Completion for Vascular Structures. **MICCAI**, 2024. (Early Accept)

7. Xu Lei, Yan Zhang, Chang Xu, **Wensheng Cheng**, Wen Yang. NiDR: Nighttime Aerial Tracking via Decoupled Representations. **IEEE Transactions on Geoscience and Remote Sensing**. 2024.

8. Xu Lei, Chang Xu, **Wensheng Cheng**, Wen Yang, Guisong Xia. A3Track: Achieving Precise Target Tracking in Aerial Images With Receptive Field Alignment. **IEEE Transactions on Geoscience and Remote Sensing**, 2023.

9. Hexin Bai*, **Wensheng Cheng***, Peng Chu*, Juehuan Liu, Kai Zhang, Haibin Ling. GMOT-40: A Benchmark for Generic Multiple Object Tracking. **CVPR**, 2021.

10. **Wensheng Cheng**, Wen Yang, Min Wang, Gang Wang, Jinyong Chen. Context Aggregation Network for Semantic Labeling in Aerial Images. **Remote Sensing**, 2019.

11. Jinwang Wang, Jian Ding, Haowen Guo, **Wensheng Cheng**, Ting Pan, Wen Yang. Mask OBB: A Semantic Attention Based Mask Oriented Bounding Box Representation for Multi-Category Object Detection in Aerial Images. **Remote Sensing**, 2019.

12. **Wensheng Cheng***, Hao Luo*, Wen Yang, Lei Yu, Shoushun Chen, Wei Li. DET: A High-Resolution DVS Dataset for Lane Extraction. **CVPR Workshop**, 2019.

HONORS

1. **Excellence Fellowship**, Stony Brook University, 2020 - 2024

2. **Excellent Graduated Graduate Student**, Wuhan University, 2020

3. **National Scholarship**, Top 0.5%, Highest honor for students, 2019

4. **First-class Academic Scholarship**, Ranked 2/500+, Wuhan University, 2019