Zhuchen SHAO

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EDUCATION

University of Illinois Urbana-Champaign - *The Grainger College of Engineering*   *Sep. 2024 - Present*
- Ph.D in Electrical & Computer Engineering   GPA: 3.73 / 4.0
- Advisor: Prof. Klara Nahrstedt
- Main courses: Computer Vision, Machine Learning, Adv Topics in NLP
- Research interests: Vision-Language Models, Real-time Streaming Video Understanding

Tsinghua University - *Tsinghua Shenzhen International Graduate School*   *Sep. 2021 - Jun. 2024*
- M.E. in Electronic and Information Engineering (Artificial Intelligence)   GPA: 3.63 / 4.0
- Advisor: Prof. Haoqian Wang
- Main courses: Machine Learning, Introduction to Statistical Learning Methods, Artificial Neural Network
- Research interests: Medical Image Analysis, Weakly-Supervised Learning

Dalian Maritime University - *College of Marine Electrical Engineering*   *Sep. 2017 - Jun. 2021*
- B.E. in Automation   GPA: 4.22 / 5.0   Rank: 1 / 123
- Main courses: Analysis of Signal and System, Principle of Automatic Control

PUBLICATIONS

Investigating the impact of data consistency in task-informed learned image reconstruction method   *SPIE MI, 2025*
Zhuchen Shao, Changjie Lu, Kaiyan Li, Hua Li, Mark Anastasio

Prior-guided diffusion model for cell-level segmentation in quantitative phase imaging   *SPIE MI, 2025*
Zhuchen Shao, Mark Anastasio, Hua Li

Semi-Supervised Semantic Segmentation of Cell Nuclei via Diffusion-based Pre-Training and Collaborative Learning   *JMI, 2025*
Zhuchen Shao, Sourya Sengupta, Hua Li, Mark Anastasio

AugDiff: Diffusion based Feature Augmentation for Multiple Instance Learning in Whole Slide Image   *TAI, 2024*
Zhuchen Shao, Liuxi Dai, Yifeng Wang, Haoqian Wang, Yongbing Zhang

LNPL-MIL: Learning from Noisy Pseudo Labels for Promoting Multiple Instance Learning in Whole Slide Image   *ICCV, 2023*
Zhuchen Shao, Yifeng Wang, Yang Chen, Hao Bian, Shaohui Liu, Haoqian Wang, Yongbing Zhang

HVTSurv: Hierarchical Vision Transformer for Patient-level Survival Prediction from Whole Slide Image   *AAAI, 2023*
Zhuchen Shao, Yang Chen, Hao Bian, Jian Zhang, Guojun Liu, Yongbing Zhang

dMIL-Transformer: Multiple Instance Learning via Integrating Morphological and Spatial Information for Lymph Node Metastasis Classification   *JBHI, 2023*
Yang Chen*, Zhuchen Shao*, Hao Bian*, Zijie Fang, Yifeng Wang, Yuanhao Cai, Haoqian Wang, Yongbing Zhang

Multiple Instance Learning with Mixed Supervision in Gleason Grading   *MICCAI, 2022*
Hao Bian*, Zhuchen Shao*, Yang Chen*, Yifeng Wang, Haoqian Wang, Jian Zhang, Yongbing Zhang

TransMIL: Transformer based Correlated Multiple Instance Learning for Whole Slide Image Classification   *NeurIPS, 2021*
Zhuchen Shao*, Hao Bian*, Yang Chen*, Yifeng Wang, Jian Zhang, Xiangyang Ji, Yongbing Zhang

PROFESSIONAL EXPERIENCES

Research Intern - *Computational Imaging Science Laboratory, UIUC*   *Mar. 2023 - Sep. 2024*
Advisor: Prof. Mark Anastasio
- We proposed a novel semi-supervised learning framework that integrates an unsupervised pre-training mechanism for cell nuclei segmentation.

SELECTED HONORS

National Scholarship (top 1%), Tsinghua University   *2023*
National Scholarship (top 1%), Dalian Maritime University   *2018, 2019, 2020*

SKILLS

Programming: Python, PyTorch, LaTeX
Languages: English (fluent), Mandarin (native)