

# 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. Yaoyao Liu
- Main courses: Computer Vision, Machine Learning, Digital Imaging
- Research interests: Video Editing, Medical Imaging and Analysis

**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)