

# Xiaoran Zhang

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**Research Interest** Medical Image Analysis, Computer Vision

## Education

**Yale University**, New Haven, Connecticut  
*Ph.D., Biomedical Engineering* Aug. 2021 - Present

- Advisors: Prof. James Duncan and Prof. Lawrence Staib

**University of California, Los Angeles (UCLA)**, Los Angeles, California  
*M.S., Electrical and Computer Engineering* (GPA:3.933/4.0) Sep. 2019 - June 2021

**Beijing Institute of Technology (BIT)**, Beijing, PRC  
*B.S., Automation (Electrical Engineering)* (GPA: 91.57/100) Sep. 2015 - June 2019

**Work Experience** **University of Alberta**, Edmonton, Alberta

*Mitacs research intern working on left atrium segmentation.* July 2018 - Oct. 2018

- Advisors: Prof. Kumaradevan Punithakumar and Prof. Michelle Noga

## Selected Publications

- [1] **Xiaoran Zhang**, Chenyu You, Shawn Ahn, Juntang Zhuang, Lawrence Staib, James Duncan. "Learning correspondences of cardiac motion from images using biomechanics-informed modeling." *MICCAI-Statistical Atlases and Computational Modelling of the Heart (STACOM) Workshop*, 2022
- [2] Jingxi Li, Jason Garfinkel, **Xiaoran Zhang**, Di Wu, Yijie Zhang, Kevin de Haan, Hongda Wang, Tairan Liu, Bijie Bai, Yair Rivenson, Gennady Rubinstein, Philip O Scumpia, Aydogan Ozcan. "Biopsy-free in vivo virtual histology of skin using deep learning." *Light: Science & Applications*, 2021 (IF=20.26).
- [3] **Xiaoran Zhang**, Yan Li, Yicun Liu, Shu-Xia Tang, Xiaoguang Liu, Kumaradevan Punithakumar, Dawei Shi. "Automatic spinal cord segmentation from axial-view MRI slices using CNN with grayscale regularized active contour propagation." *Computers in Biology and Medicine*, 2021 (IF=6.69).
- [4] **Xiaoran Zhang**, Michelle Noga, David Glynn Martin, Kumaradevan Punithakumar. "Fully automated left atrium segmentation from anatomical cine long-axis MRI sequences using deep convolutional neural network with unscented Kalman filter." *Medical Image Analysis*, 2020 (IF=13.828).
- [5] **Xiaoran Zhang**, Michelle Noga, Kumaradevan Punithakumar. "Fully automated deep learning based segmentation of normal, infarcted and edema regions from multiple cardiac MRI sequences." *MICCAI-Statistical Atlases and Computational Modelling of the Heart (STACOM) Workshop*, 2020.
- [6] **Xiaoran Zhang**, David Glynn Martin, Michelle Noga, Kumaradevan Punithakumar. "Fully automated left atrial segmentation from MR image sequences using deep convolutional neural network and unscented kalman filter." *IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, 2018.

## Academic Services

### Journal Reviewer

- Medical Image Analysis (MedIA)
- IEEE Transactions on Medical Imaging (TMI)
- IEEE Transactions on Biomedical Engineering (TBME)
- Neurocomputing
- BMC Medical Imaging

- BMC Medical Informatics and Decision
- IEEE/ASME Transactions on Mechatronics (TMECH)
- IEEE Transactions on Industrial Electronics (TIE)

**Conference Reviewer**

- International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) 2022, 2023
- International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) 2022

**Selected Awards and Honors**

Graduate Fellowship, Yale University, 2021-2022

President Teli Xu's Special Fellowship (highest honor, cash award ~ 7000 usd), BIT, 2019

Graduate with 1st Class Honor, BIT and Beijing Municipal Education Commission, 2019

Mitacs Award for Outstanding Innovation-Undergraduate (1 out of all interns), Mitacs, 2018

Meritorious Winner in the Interdisciplinary Contest in Modeling (top 8.88%), COMAP, 2018

National Scholarship, by the Ministry of Education of PRC, 2015-2016

**Teaching**

**Teaching Assistant**

- BENG 352 Biomedical Signals and Images at Yale Spring 2023

**Reader/Grader**

- ECE M146 Introduction to Machine Learning at UCLA Spring 2021
- ECE C247 Neural Networks and Deep Learning at UCLA Winter 2021
- ECE 236A Linear Programming at UCLA Fall 2020

**Skills**

**Programming:** Python, MATLAB, Pytorch, L<sup>A</sup>T<sub>E</sub>X, Tensorflow, Keras, HTML

**Language:** Chinese (native), English.