

# XIANGTIAN LI

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## EDUCATION

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**Zhejiang University, School of Mathematical Sciences**

B.S. in Information and Computing Science

**GPA:** 3.80/4.00, **Ranking:** Top 15% of 40

Hangzhou, China

Sep 2017 - Jun 2021

**University of California, Berkeley**

Concurrent Enrollment Student

**GPA:** 3.80/4.00

Berkeley, U.S.

Jan 2020 - May 2020

**Selected courses:** *Efficient Algorithms and Intractable Problems; Image Manipulation, Computer Vision and Computational Photography*

## RESEARCH EXPERIENCE

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**Vision and Learning Lab, University of California, Merced**

Visiting student working remotely with Prof. [Ming-Hsuan Yang](#)

*Learning Dynamic Textures via Spatiotemporal Generative Adversarial Networks*

Merced, U.S.

July 2020 - Present

In submission of CVPR 2021

- Proposed a spatiotemporal generative network which learns dynamic textures from a single video clip.
- Designed an encoder attached to the network for future predictions.
- Demonstrated the proposed algorithm performs favorably against state-of-the-art methods.
- Designed an encoder that allows the unconditional model to transform an input frame into a video sequence.

**State Key Lab of CAD&CG, Zhejiang University**

Research assistant; Advisor: Prof. [Wei Chen](#) and Prof. [Pengyi Hao](#)

*Weakly supervised segmentation on pelvic X-rays*

Hangzhou, China

May 2019 - May 2020

- Constructed U-Net to attain ROIs of the femur with a FWIoU of 0.93 and MeanIoU of 0.85.
- Utilized Dense161 Network to classify different types of bone fractures in the femur with an accuracy of 91%.
- Proposed an innovative weakly supervised segmentation method to complete fracture segmentation only based on text labels.

**RealDoctor Research Center of Zhejiang University**

Research assistant; Advisor: Prof. [Pengyi Hao](#)

*Medical Image Segmentation*

Hangzhou, China

May 2019 - August 2019

- Launched structure combining ResNet and UNet, leveraging ResNet for downsampling and UNet for up-sampling, achieving a faster training time and a higher accuracy.
- Pioneered segment task completion on LUNA dataset through utilization of VNet architecture.
- Navigated preparation of dataset employing dense161 to classify fracture types.

**Advanced Computing and System Laboratory, Zhejiang University**

Advisor: Prof. [Nenggan Zheng](#)

*Cell Structure Clustering and Visualization*

Hangzhou, China

Dec 2018 - May 2020

- Evaluated and identified proper algorithms to execute clustering tasks on electron microscopic image.
- Achieved visualization of the cell structure with Davies-Bouldin performance of 0.85 on small samples.
- Learned the automated reconstruction of neuronal morphology based on local geometrical and global structural models.

## SELECTED COURSE PROJECTS

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### CS194-26: Image Manipulation, Computer Vision and Computational Photography Jan 2020 - May 2020

- Demonstrated a fully automated colorization approach for separating three color components and applying image processing and techniques to align them together and reproduce full-color images. [\[website\]](#)
- Implemented ANMS, feature matching and RANSAC to automatically find the keypoints and blend the images into a panorama. [\[website\]](#)
- Final Project: Neural Style Transfer. [\[website\]](#)

### Computer Vision Project [\[code\]](#) Nov 2019 - Jan 2020

- Utilized eigenface to complete human face recognition.
- Combined calibration and bird-eye method and implemented camera calibration and projection.
- Constructed LeNet-5 and complete digit recognition on MNIST dataset.

## SELECTED AWARDS AND HONORS

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|---|------|
| • Nandu Innovation Scholarship                          | 2020 |
| • First Class Scholarship for Academic Excellence       | 2019 |
| • Merit Student, Zhejiang University                    | 2019 |
| • Honorable Mention in Mathematical Contest in Modeling | 2019 |
| • Academic Excellence, Zhejiang University              | 2018 |
| • Third Class Scholarship for Academic Excellence       | 2018 |
| • Bronze Medal in National University Piano Competition | 2018 |

## ADDITIONAL INFORMATION

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### Programming Language and Tools

- Python, C/C++, MATLAB, SQL
- TensorFlow, PyTorch, LaTeX

### Extracurricular Experiences

- Vice president of Wenqin Keyboard Band of Zhejiang University (2018 - present)
- Member of QiuShiChao Video Group (2017 - 2019)

### Standard Test

- TOEFL: 106 (R28, L28, S22, W28)
- GRE: 322+4 (152+170+4)