

XIANGTIAN LI

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EDUCATION

Zhejiang University, School of Mathematical Sciences

B.S. in Information and Computing Science

Hangzhou, China

Sep 2017 - Jun 2021

- **GPA:** 3.80/4.00, **Ranking:** Top 15% of 39
- Conduct extensive academic research in computer vision and machine learning
- Selected awards: First Class Scholarship for Academic Excellence, Honorable Mention in Mathematical Contest In Modeling

University of California, Berkeley

Concurrent Enrollment Student

California, U.S.

Jan 2020 - May 2020

- **GPA:** 3.80/4.00
- Selected courses: CS170: Efficient Algorithms and Intractable Problems; CS194-26/294-26: Image Manipulation, Computer Vision and Computational Photography

RESEARCH EXPERIENCE

Vision and Learning Lab, University of California, Merced,

Research Assistant, Advisor: Prof. [Ming-Hsuan Yang](#)

California, U.S.

July 2020 - Present

Learning a Generative Model from a Single Video

- Introduce an unconditional generative model that can be learn from a single video.
- Propose a data update strategy to improve the diversity of results.
- Design 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](#)

Hangzhou, China

May 2019 - Present

Weakly supervised segmentation on pelvic X-rays

- Construct U-Net to attain ROIs of the femur with a FWIoU of 0.93 and MeanIoU of 0.85.
- Utilize Dense161 Network to classify different types of bone fracture in femur with an accuracy of 0.91.
- Propose an innovative weakly supervised segmentation method to complete fracture segmentation only based on text labels

Medical Image Segmentation

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

Zhejiang University, AdvanCed Computing aNd SysTem Laboratory

Research Assistant, Advisor: Prof. [Nenggan Zheng](#)

Hangzhou, China

Dec 2018 - May 2020

Cell Structure Clustering and Visualization

- 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 PROJECTS

CS 194-26 Project

Jan 2020 - May 2020

- Demonstrate 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. [\[website\]](#)
- Implement gaussian filter and use it to straighten the image and blend different images together. [\[website\]](#)
- Implement face warping with triangulations, produce a caricature of our face and make a music video. [\[website\]](#)
- Complete a classification task by training a model on Fashion-mnist dataset and construct a unet to implement semantic segmentation on the Facade dataset. [\[website\]](#)
- Implement 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

- Made a personal video with OpenCV video function
- Implement ellipse fitting with cvFitEllipse2
- Utilized eigenface to complete human face recognition
- Combined calibration and bird-eye method and implement camera calibration and projection
- Constructed LeNet-5 and complete digit recognition on MNIST dataset

Course Management System [\[code\]](#)[\[report\]](#)

May - Jun 2019

- Devised and implemented a detailed database to store
- Optimize information of every student and course
- Streamlined system to execute various functions for admins, teachers and students
- Initiated a subsystem to upload, download and arrange the assignment

SELECTED AWARDS AND HONORS

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|---|------|
| • 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

Programming Language and Tools

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

Extracurricular Experiences

- Vice leader of Wenqin Keyboard Band of Zhejiang University (2018 - present)
- Member of QSC Video Group (2017 – 2019)
- Hobbies: Piano, Photography, Movie, Table Tennis

Standard Test

- TOEFL: 104(R28, L28, S20, W28)
- GRE: 322+4(152+170+4)