XIANGTIAN LI

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EDUCATION

Zhejiang University, School of Mathematical Sciences Hangzhou, China
B.S. in Information and Computing Science 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 California, U.S.
Concurrent Enrollment Student 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, California, U.S.
Research Assistant, Advisor: Prof. Ming-Hsuan Yang

State Key Lab of CAD&CG, Zhejiang University Hangzhou, China
Research Assistant, Advisor: Prof. Wei Chen 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 upsampling, 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 Hangzhou, China
Research Assistant, Advisor: Prof. Nenggan Zheng 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

- 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

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

Standard Test

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