Hanyun Zhao

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EDUCATION

Viterbi School of Engineering   University of Southern California   **Aug 2021-May 2023**

Master of Science in Electrical and Computer Engineering (Machine Learning and Data Science)
- **Cumulative GPA:** 3.94/4.0

UM-SJTU Joint Institute   Shanghai Jiao Tong University   **Sep 2018-Jun 2022**

Bachelor of Engineering in Electrical and Computer Engineering (with CS minor)
- **Cumulative GPA:** 3.2/4.0
- **Awards:** 2nd price of Shanghai 2021 Engineering Training Comprehensive Ability Competition

WORK EXPERIENCE

Computer Vision Engineer, DOCTOR HEALTHX, China (remote)   **Sep 2022-Dec 2022**
- Process 260 raw 3D images with different thickness into 47482 2D slices with unified sizes.
- Segment tumor regions of gallbladder cancer based on CT images with UNet; achieve overall dice score of 0.864.

PROJECTS

Glister – A Highlight Capturer (Kotlin)   **May 2022-Aug 2022**
- Lead the capstone team of six to develop an Android application that can automatically capture highlighted moments, while taking little operation and storage
- Design and construct the frontend based on MVC architecture with Kotlin, with major functions including recording, uploading, image categorizing, and image editing; run and test the app with Android Studio

Chord Master (Python)   **Apr 2022-May 2022**
- Build a classifier of major and minor chord played by piano or guitar; tune and compare models like SVM, RF, AlexNet and ResNet18, and reach maximum accuracy of 86.30%

Twitter Crawler Application (Javascript)   **Mar 2022-Apr 2022**
- Build a Javascript mini server that can obtain tweets, timeline, and user information through Twitter API and Axios HTTP client module; deploy on AWS EC2 with DocumentDB

Digital Image Processing (C++ and Python)   **Jan 2022-Mar 2022**
- Process images with non-deep learning method like denoising, boundary detection, texture analysis

Face recognition on edge devices (C, C++ and Python)   **Jun 2021-Aug 2021**
- Lead a team of three to collaborate on software and hardware; apply OpenCV Haar Cascade and one-shot learning for facial recognition and tracking with scalable dataset; deploy it on Nvidia Jetson Xavier kit
- Optimize by introducing OpenCV tracker and multithreading; lift processing capacity from 4fps to 10fps

RESEARCH EXPERIENCE

Video stream processing with edge AI   **Jan 2021-Oct 2021**

SJTU Intelligent big data system Laboratory
- Divide videos and assign slices to edge AI processors to achieve more scalability, fault tolerance, and cost effectiveness; find out a balanced video stream encoding configuration to achieve best overall performance
- Test with Xvid Codec and YOLO5 object-detecting algorithm and conclude videos can generally be compressed by more than 70% without significant impacts on detecting accuracy

SKILLS

C, C++(5y), MATLAB, Kotlin, Python(4y), Pytorch, Sklearn, Nodejs, OpenCV, MongoDB, Linux, AWS, LaTeX

ACTIVITIES

Member of Intelligent Robot Club, Engineering Training Center, SJTU   **Jan 2021-Aug 2021**
Assistant of International Program Office, UMJI, SJTU   **Apr 2019-Aug 2020**