



EDUCATION

The Hong Kong University of Science and Technology	QS Top100	Sep 2022 - Oct 2024
Robotics and Autonomous Systems, MPhil with full scholarship, Computer Vision, GPA: 4.00/4.30		Guangzhou
East China Normal University	985 Double 1st-Class	Sep 2018 - Jun 2022
Mathematics and applied mathematics, Mathematical Science College, Bachelor, GPA: 3.54/4.00		Shanghai

PUBLICATION

Diff-VPS Video Polyp Segmentation via a Multi-task Diffusion Network with Adversarial Temporal Reasoning (CCF B)

Yingling LU, Yijun Yang, Zhaohu Xing, Qiong Wang, and Lei Zhu

Top 11% Early Accept by International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI) 2024. Don't need rebuttal.

- Paper description:** This paper is the first to use the Diffusion Model in the video polyp segmentation task, which has two major challenges, namely, high polyp concealment and difficult to utilize the temporal information. The project requires designing the network framework, writing the experimental code on PyTorch framework, as well as completing the data processing, comparative experiments, and writing the paper.
- My work:** I am responsible for designing the Diff-VPS model to improve the extraction of semantic information of video frames by using a multi-task framework concurrently with the classification and detection tasks. Then it can combine the temporal information of neighboring frames using a temporal inference reconstruction branch, and optimizes the reconstruction process by cleverly using a generative adversarial strategy. SoTA results are achieved for all five metrics on the SUN-SEG dataset, exceeding the 13 latest benchmark models. Ablation experiments validate the effectiveness of the different modules.

PROJECT EXPERIENCE

Go AI Pathology ! AI Pathology Platform of Gastrointestinal Cancer

- Project description:** Innovative AI pathology analysis platform, developing Gaitho OS, Studio and Plus product series, using artificial intelligence to optimize the cancer diagnosis process and improve the efficiency of pathology. The project gathers an interdisciplinary team of professors and students (Prof. Gao Feng from CUHK and Prof. Zhu Lei from HKUST), entrepreneurial expert mentors (QiuGeng Hu, founder of BoxMart, and Yiming Li, founder of DeepWise), and strategic partners' resources (Sun Yat-sen Sixth Hospital and Biolsland Labs), and is committed to improving healthcare services through technological advancement, and to demonstrating a positive contribution to social responsibility programs.
- My work:** I am responsible for providing the background of knowledge related to image classification segmentation, writing the business plan of the project, and the roadshow of the startup competition (Top 24 in HKUST Million Dollar Bonus (International) Entrepreneurship Competition).

Event Camera Assisted Human Posture Estimation

Mar 2023 - Jun 2023

- Project description:** Traditional image-based attitude estimation has limitations such as low dynamic range and low frame rate. While the high temporal resolution of the event camera can supplement the inter-frame information of the video to obtain more accurate attitude information. This project explores the use of UniHCP, an image-based human-centered multi-task foundation model, for knowledge distillation to reduce errors in pose estimation.
- My work:** I am responsible for capturing the dataset used for testing using a DAVIS camera, and running the human pose dataset MMHPSD with event information using the foundation model UniHCP.

Campus Challenge Project: Meta Easy Community

Sep 2022 - Nov 2022

- Project description:** The project consists of 7 students from different majors, dedicated to exploring the way of socializing and shopping in the virtual community of meta-universe.
- My work:** I am responsible for realizing the 3D digital human generation function based on the demand of virtual dressing. This task uses only single view 2D images to generate the output 3D model of the human body and the corresponding texture information of the 3D model, which is further used for Blender and Unity modeling. During this period, we conducted preliminary tests on Colab using PIFuHD models, and completed literature research, video demos and roadshows.

Yufeng Project: AI Training Camp

Sep 2021 - Jul 2022

Top 6 Excellent Students (Top 7.5%)

The Yufeng Project is a training program for young talents in artificial intelligence initiated by the Department of Computer Science at Tsinghua University, including professors Liu Zhiyuan, Deng Junhui, Hu Xiaolin, and Zhang Min, and doctoral students, which includes three major sections, namely, **Machine Learning**, **Computer Vision (CV)** and **Natural Language Processing Learning (NLP)**

in Deep Learning, and **Data Structures and Algorithms**. I completed tasks such as game win/loss prediction, conference paper clustering, hand game user churn prediction, traffic scene target detection, image super-resolution, machine translation, text sentiment analysis, and long text relationship extraction, etc.

WORK EXPERIENCE

Shanghai Summerhill Education Technology Co., LTD

Jul 2021 - Aug 2021

Director of British Summer Camp

Shanghai

- I am responsible for planning the summer pre-camp training (including activities content, injury management, parent communication, children's emotions, etc.). My team trained 90+ Chinese instructors and collaborated with 45 foreign teachers to lead more than 500+ children to learn about British culture and sports activities during the summer, cultivating children's independence, communication, teamwork, and problem-solving skills
- I am responsible for dealing with emergencies in the camp, meeting customer needs, and improving the experience of instructors and children in the camp. Through the processing of weekly parent and tutor questionnaires, I give the team effective feedback, create activity cards, and optimize event time management.

Shanghai Xiehe Education Center (Group)

Dec 2020 - May 2021

'Fonian Cup' International Education Leadership Training

Shanghai

The training aims to cultivate educational talents with an international perspective.

- There are six stages: preliminary competition, semi-final competition, internship, final competition, research study, and report. During my internship, I went to US high school in Shanghai Union International School (Wanyuan) to learn bilingual mathematics teaching.
- I won the top ten and the second-class prize in the final competition. My report focused on personalized education and collaborated with two other trainees to integrate three themes into a group presentation.

Inspiring Learning Summerhill Education Technology (Shanghai) Co., LTD

Jun 2020 - Aug 2020

Assistant Camp Director

Shanghai

The program involves working with children through an assortment of individual and group sports, STEM, arts and crafts, and adventure activities in a residential school-based setting. The organization structure involves a basic unit of two foreign counselors with three local counselors. The team of five looked after a group of 20-25 6 to 11-year-old children throughout the camp. The program has a social-emotional learning element focusing on independence, communication, teamwork, and problem-solving. The working hours were long and responsibilities were heavy and multifold.

ACTIVITY EXPERIENCE

Science and Technology Innovation Department of the Youth League Committee

Sep 2018 - Jun 2021

Deputy Minister/Assistant Minister/Secretary

Shanghai

My duty is to assist in organizing 'Da Xia Cup' and other extracurricular academic science and technology works competitions for college students, as well as entrepreneurship fairs. I once participated in the final of "Challenge Cup" National College Students Extracurricular Academic Science and Technology Works Competition held by BUAA in 2019, responsible for shooting, writing and typesetting of news. Within a week, I made four news releases on the official account, which received more than 5,000 views.

HONORS & AWARDS

3MT Top 1 in Systems Hub

2023

Third-class Scholarship for Outstanding Students

2020, 2021

First Prize of China Undergraduate Mathematical Contest in Modeling

2020

American College Mathematical Modeling Contest H Award

2020

Outstanding Student Leader of East China Normal University

2020

SKILLS, CERTIFICATIONS & OTHERS

- **Skills:** Python, C++, MATLAB, Office, R, SQL, Unity
- **Languages:** Mandarin, English, Cantonese
- **Interests:** Volleyball, Climbing, Badminton, Swimming, Dancing