Yuan Qing

BASIC INFORMATION

yuanqing.shawn@gmail.com
https://yuanqing-ai.github.io

RESEARCH INTERESTS

- Computer Vision: Object Detection, Pose Estimation
- Machine Learning: Transfer Learning, Active Learning

EDUCATION

University of Electronic Science and Technology of China, Chengdu, China
Dual Degree Program with University of Glasgow, Glasgow, UK
Sept. 2019 - Jun. 2023

- *GPA*: 3.91/4.00
- *Ranking*: 4/242

Expected Degrees

B.Eng. in Electronic Information Engineering from University of Electronic Science and Technology of China in Jun. 2023.
First-class honors *B.Eng.* in Electronics and Electrical Engineering from University of Glasgow in Jun. 2023.

EXPERIENCE

Research Experience

Data Intelligence Group, School of Computer Science and Engineering, University of Electronic Science and Technology of China, Chengdu, China
Research Assistant Sept. 2020 - Present

- Studied the basic principles and applications of machine learning algorithms and models as well as some state-of-the-art deep learning methods on human body pose estimation.
- Developed a synthetic data acquisition and annotation pipeline based on Microsoft Flight Simulator 2020 and Renderdoc application.
- Constructed a synthetic dataset for transfer learning on aircraft pose estimation. The dataset contains 200k synthetic instances and 10k real images of aircrafts with both annotations of bounding box and keypoints (will be available soon).
- Cooperated with a research scientist from Google remotely, mainly worked on developing algorithms for domain adaption projects.
- Investigated methods related to active learning that gave a more effective way to select training samples and chose this topic for the final year project of undergraduate study.
- Conducting multiple experiments on our own dataset and some benchmark datasets to evaluate our method of aircraft pose estimation and the transfer learning technique currently.

Project Experience

Multifunctional Line Tracking and Inception Smart Robot
Group Leader Mar. 2022 - Jun. 2022

- Designed and built a line tracking smart robot based on Stm32 main development board and OpenMV's vision module to realize object detection, shape recognition, ultrasonic detection, lifting steering gear and other functions with 9 group members.
- Developed a fast and robust shape detection algorithm to recognize circles, rectangles and triangles based on Hough Transformation.
- Conducted tons of experiments on spot and tuned the parameters of the vision algorithms for best performance.
- Passed the final tests held by the committee successfully with full mark and released the project source code at https://github.com/MarcYu0303/2022-TDPS-Team-13.

2021 National Competition for Embedded Chip and System Design for University Students
Team Member Jul. 2021 - Nov. 2021
- Designed and built a face recognition door lock using a RT-Thread development board, a camera with 2 million pixels and a simple mechanical lock structure.
- Constructed a face recognition model using the Tensorflow-Lite framework and transplanted the model onto the development board based on C++, obtaining a final recognition accuracy of 83%.

RISC CPU Design and Function Implementation Based on FPGA
Designer Mar. 2021 - Apr. 2021
- Constructed a specific instruction set using assembly language, including functions like MOV, ADD, SUB, ADDC and so on.
- Used Verilog for writing datapath and control unit of the CPU and FPGA development board for function realization.

INTERNSHIP

Shenzhen Tian Hai Chen Guang Technology Co., Ltd, Shenzhen, China
Algorithm Intern Jan. 2021 - Mar. 2021
- Used Unity 3D Engine to generate synthetic datasets and studying DirectX rendering rules.
- Participated in the development of object detection projects.
- Investigated aircraft pose estimation work and related datasets.
- Acquired aircraft pose estimation data from MSFS2020.

EXTRA-CURRICULAR ACTIVITIES

Hands on Chengdu: Autism Care
Teaching Assistant Spring 2021
- Worked as the teaching assistant in special education schools every Thursday and Friday.
- Accompanied autistic children in their rehabilitation training and outdoor activities.

Recruitment of Volunteers for the FISU World University Games
Organizer&Interviewer Dec. 2020 - Jan. 2021
- Organized and arranged volunteer interviews as the main person in charge.
- Screened volunteers as an interviewer.

Youth Volunteer Association of UESTC
Group Leader Sept. 2020 - Sept. 2021
- Organized and planned voluntary activities as the office minister.
- Material management of the Youth Volunteer Association.

SKILLS

Languages&Deep learning frameworks: C/C++, C#, Python, Matlab, Verilog, Pytorch, Tensorflow
Softwares: Matlab, LTspice, Multism, MS Office, Vivado
English Proficiency: IELTS 7.5

HONORS AND AWARDS

- First-Class Academic Scholarship of Glasgow College (top 5%) 2020, 2021&2022
- Outstanding Student First-Class Scholarship of University of Electronic Science and Technology of China (top 10%) 2020, 2021&2022
- Third Prize in 2021 National College Student Embedded Chip and System Design Competition 2021
- Top 100 Outstanding Young Volunteers of University of Electronic Science and Technology of China 2020
- Undergraduate National Scholarship (top 1.6%) 2020