Zhang YiFei

3D Computer Vision

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Chengdu, China

Education

MSc. UESTC 2018.09 - 2021.06
Computer Science, Dept. of Computer Science and Engineering

B.Eng. UESTC 2014.09 - 2018.06
Computer Science, Yincai Honors College of UESTC

Honors

Second Prize for Postgraduate Scholarship 2019.10
OPPO AI Challenge Segmantation Track Excellence Prize 2019.04
First Prize for Postgraduate Scholarship 2018.10
MCM Honorable Mention 2017.02

Experience

► **Unsupervised Depth Estimation @ CFM. UESTC** from 2019.04

- My research direction is unsupervised depth estimation algorithm based on monocular videosequence. Unsupervised training process based on deep neural network can be quicklytransferred to a new environment, and the training only needs the data of monocularcamera video, which has great application prospects.
- Existing unsupervised trainning process suffers from slow convergence, try to improve from the following several aspects: 1) Co-attention module has been shown to mine association of adjacent video frames, so applying co-attention on feature maps of adjacent frames may predict more accurate depth map. 2) the pose-net is completely trained with reconstruction loss which is built upon several frames, but it doesn't consider the the relations among those adjacent frames. Therefore, it is proposed to improve posenet training process using filtering methods(eg. kalman filter), which is widely used in SLAM system.
- **This work will be submitted to IJCAI.**

► **Accelerate reinforcement algorithm training in Unity @ Thesis** 2017.10 - 2018.06

- Reinforcement learning agent often needs a large number of exploration data to optimize policy by interacting with the environment. It will take a high time and material cost in the real world. We propose a framework that allows existing algorithms to interact with Unity environment and collect data in real-time.

► **Front End Web Developer Intern @ Baidu** 2016.12 - 2017.05

- During this internship, I was responsible for implementing new features of Baidu advertisement system, I worked with UI/UC designer, PM, QA and backend developer and bridged the gap between graphical design and technical implementation, optimized application for maximum speed and scalability, and built reusable code for future use.

Projects & Skills

github.com/Yidadaa/Pytorch-Video-Classification, (Python / Pytorch) ≈ 500 **lines** 2019.04
Make Action Classification on Videos using CNN-RNN, achieves 80% accuracy on UFF101 Dataset.

github.com/Yidadaa/Satellite-Imagery-Segmantation-Deeplab, (Python / Pytorch) ≈ 1000 **lines** 2019.05
Satellite Imagery Segmantation using Deeplabv3.

github.com/Yidadaa/Parallel-Programming-On-GPU, (CUDA / C++) ≈ 200 **lines** 2018.11
Accelerate simulation of n-body problem using CUDA, 3000x faster after accelerating.

github.com/Yidadaa/Captcha-Deep-Learning, (Python / Keras / Tensorflow) ≈ 500 **lines** 2018.01
Recognize captcha using an End-to-End CNN pipeline, achieves 98% accuracy on custom Dataset.

github.com/Yidadaa/OPPO-Human-Segmentation, (C++ / Dart) ≈ 1000 **lines** 2019.03
Deploy deeplabv3 human segmantation model to mobile platform using Tencent NCNN framework.

github.com/Yidadaa/HUAWEI-Codecraft-2019, (C++) ≈ 1000 **lines** 2019.05
Code for HUAWEI Codecraft 2019, contains unit testing, following Google C++ Style Guide.