Lin-Zhuo Chen

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Education

2018 – 2021 **M.Eng. Computer Science, NanKai University**, Tianjin
RGBD Semantic Segmentation, Point Cloud Perception and 3D Computer Vision.
Advisor: **Ming-Ming Cheng**.

2014 – 2018 **B.Eng. Electronic and Information Engineering, Xidian University**, Xi'an.
Robotics and Electronic Engineering
Advisor: Xin-Huai Wang. Postgraduate recommendation rank: 6/186

Experience

2021.7 – 2022.4 **ByteDance**, Algorithm Engineer.

2020.3 – 2020.9 **ByteDance AI Lab**, Research Intern.

Research Publications

- **Spatial Information Guided Convolution for Real-Time RGBD Semantic Segmentation**
  Lin-Zhuo Chen, Zheng-Lin, Ziqin Wang, Yong-Liang Yang and Ming-Ming Cheng
  IEEE Transactions On Image Processing (TIP) 2021, CCF-A, Top Journal
- **Interactive Image Segmentation with First Click Attention**
  Zheng-Lin, Zhao Zhang, **Lin-Zhuo Chen**, Ming-Ming Cheng and Shao-Ping Lu
  IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2020, CCF A, Top Conference
- **Feature Learning on Point Sets by Local Spatial Aware Layer**
  Lin-Zhuo Chen, Xuan-Yi Li, Deng-Ping Fan, Kai Wang, Shao-Ping Lu and Ming-Ming Cheng
  arXiv preprint arXiv:1905.05442

Research Experience

- **2D/3D and Interactive Image Segmentation**. This project focuses on Interactive Image Segmentation and RGBD semantic segmentation tasks. We demonstrate the critical role of the first click about providing the location and main body information of the target object in Interactive Image Segmentation task. A deep framework, named First Click Attention Network (FCA-Net), is proposed to make better use of the first click. We also propose S-Conv which is competent to infer the sampling offset of the convolution kernel guided by the depth in RGBD semantic segmentation tasks, helping the convolutional layer adjust the receptive field and adapt to geometric transformations. Relevant achievements were published at CVPR 2020, TIP2021. `https://linzhuo.xyz/sgnet/` has more details.
- **Autonomous Flight of Quadrotor**: We implement a system of quadrotor which can achieve autonomous flight, including hovering, path tracking and instrument playing. The indoor positioning system is composed of two industrial infrared cameras, PC and infrared LED lights on the quadrotor, which is responsible for solving its coordinates; the attitude controller and position controller adopt

cascade PID controller; the Kalman filter is used as the state estimator. More details can be found at `https://linzhuo.xyz/quadrotor/`.

Awards & Fellowships

2016 **Second Prize** of CUMCM in Shaanxi.

The Second Prize scholarship in Xidian University

2017 **National Second Prize** of Challenge Cup.

Excellence Prize of National Training Program.

2020 **Gongneng Scholarship** of department of Computer Science, Nankai University.

Skills

Coding Python, C/C++, SQL, LaTeX.

Framework PyTorch, Tensorflow, Keras, Sklearn, Pandas, Opencv.

Languages Chinese, English.