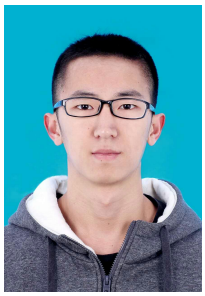
Yu Chen



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mainpage: https://aibluefisher.github.io

EDUCATION

Ph.D student	**National University of Singapore**	**Dept. Computer Science**	**2021.01-now**
M.S.	**Peking University**	**Computer Software and Theory**	**2017.09-2020.06**
B.S.	**Beihang University**	**Software Engineering**	**2013.09-2017.06**

PUBLICATIONS

Conferences/Journals

Yu Chen, Zihao Yu, Shu Song, Tianning Yu, Jianming Li, Gim Hee Lee. ***AdaSfM: From Coarse Global to Fine Incremental Adaptive Structure from Motion*** (**ICRA 2023**, [|])

Yu Chen, Ji Zhao, Laurent Kneip. ***Hybrid Rotation Averaging: A Fast and Robust Rotation Averaging Approach.*** (**CVPR 2021**, [|])

Yu Chen, Shuhan Shen, Yisong Chen, Guoping Wang. ***Graph-Based Parallel Large Scale Structure from Motion.*** (**Pattern Recognition 2020**, Journal, IF: 7.196, [|])

Yu Chen, Wang Yao, Lu Peng, Chen Yisong, Wang Guoping. **Large-Scale Structure from Motion with Semantic Constraints of Aerial Images.** (the First Conference of **Pattern Recognition and Computer Vision 2018**, China)

Seminar

Yu Chen, Yisong Chen, Guoping Wang. ***Bundle Adjustment Revisited.*** (The 14th Joint Workshop on **Machine Perception and Robotics 2018, Japan**,)

Thesis

Yu Chen. Graph-Based Distributed Large-Scale Structure-from-Motion Algorithm. (Master Thesis)

WORKING EXPERIENCE

Segway-Ninebot **SLAM Engineer** **SLAM Group** **2020.07 - 2021.12**

- Designed and implemented the self-calibration algorithm of the yaw angle for sharing scooters. The algorithm can be run in real-time and has high success probability of calibration. The cloud-end scheduling efficiency is highly improved based on this algorithm.

- Designed and implemented the tightly-coupled VIO system. Based on IMU, wheel encoders, and visual features, the designed VIO front-end can stably process corner cases such as wheel slippage, camera occlusion, pure rotation, weak-texture areas in real time.
- Designed and implemented the tag/marker-based mapping algorithm for canteen robots, includes the robust initialization algorithm of tag pose, joint optimization of tag features points and camera poses, the multi-map merging and updating algorithms.
- Large-scale outdoor visual mapping algorithm. The algorithm, which is based on multiple low-cost sensor fusion, highly improves the mapping robustness and efficiency.

INTERNSHIP EXPERIENCE

TuSimple **Research Intern** **Localization and High-Definition Group** **2019.04 - 2019.07**

- I have been taking part in the research work of global optimization approaches (currently on global rotation averaging), and I'm supervised by Dr. Ji Zhao.
- I improved global rotation averaging approach by x100 times in efficiency, without precision loss compared with state-of-the-art in large scale datasets.
- I make the global rotation averaging optimization approach practicable in SLAM backend.

Megvii (Face++) **3D Reconstruction Intern** **SLAM Group** **2018.09 - 2018.12**

- I implemented a mobile-based real-time 3D reconstruction framework utilizing the raw images and depth images as input.
- I applied depth fusion-based approach for front-end reconstruction, multi-view based approach for backend texture mapping.

PROFESSIONAL SKILLS

- Languages: Chinese (native), English
- Programming Languages: C++, C, Python, MATLAB, C#, JAVA, JavaScript, HTML+CSS
- Others: ROS, Docker, Linux

AWARDS AND SCHOLARSHIPS

- 2021.01-now. Research Scholarship of SoC, NUS
- 2019.11. 2nd Prize in 3D Reconstruction Group, the 2nd China Virtual Reality and Application Innovation Challenge
- 2017.07-2020.06 Academic Scholarship of Peking University
- 2018. 2nd place in 3v3 basketball game of Peking University
- 2014. First prize in speech contest in 2013 fall, One of Top Ten Broadcasting Hosts
- 2013. First prize in speech contest