



Youmin Zhang

Jiangxi Province, China

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“Everything happens the best.”

Education

University of Bologna

PH.D. IN COMPUTER SCIENCE AND TECHNOLOGY

Bologna, Italy

Nov. 2020 - Feb. 2024

- Topics including: depth sensing, SLAM, stereo matching, depth from a single image
- Supervisor: Prof.Stefano Mattoccia and Prof.Matteo Poggi

ETH Zurich

VISITING PH.D. IN COMPUTER VISION AND GEOMETRY GROUP

Zurich, Switzerland

May. 2023 - Nov. 2023

- Topics including: NeRF-based SLAM, NeRF-based Multiview Stereo Matching
- Advisor: Prof.Marc Pollefeys and Dr.Songyou Peng

Beihang University

M.S. IN COMPUTER SCIENCE AND TECHNOLOGY

Beijing, China

Sep. 2017 - Jun. 2020

- Thesis: Research and Implementations of Real-time and High Accuracy Binocular Stereo Matching Algorithms
- Supervisor: Prof.Xiao Bai

Dalian Maritime University

B.S. IN COMMUNICATION ENGINEERING

Dalian, China

Sep. 2013 - Jul. 2017

- GPA: 4.05/5.0
- Ranking: 4/128

Selected Publications

1. Tosi Fabio, **Youmin Zhang**, Ziren Gong, Erik Sandström, Stefano Mattoccia, Martin R. Oswald, Matteo Poggi. *How NeRFs and 3D Gaussian Splatting are Reshaping SLAM: a Survey*. **arXiv**. 2024.
2. Ganlin Zhang, Erik Sandström, **Youmin Zhang**, Manthan Patel, Luc Van Gool, Martin R. Oswald. *GLORIE-SLAM: Globally Optimized RGB-only Implicit Encoding Point Cloud SLAM*. **arXiv**. 2024.
3. **Youmin Zhang**, Fabio Tosi, Stefano Mattoccia, Matteo Poggi. *GO-SLAM: Global Optimization for Consistent 3D Instant Reconstruction*. **ICCV**. 2023.
4. **Youmin Zhang**, Matteo Poggi, Zheng Zhu, Guan Huang, Stefano Mattoccia. *CompletionFormer: Depth Completion with Convolutions and Vision Transformers*. **CVPR**, 2023.
5. **Youmin Zhang**, Matteo Poggi, Stefano Mattoccia. *TemporalStereo: Efficient Spatial-Temporal Stereo Matching Network*. **IROS**, 2023.
6. **Youmin Zhang***, Chaoqiang Zhao*, Matteo Poggi, Fabio Tosi, Xianda Guo,Zheng Zhu, Guan Huang, Yang Tang, Stefano Mattoccia. *MonoViT: Self-Supervised Monocular Depth Estimation with a Vision Transformer*. **3DV**, 2022.
7. **Youmin Zhang***, Yimin Chen*, Xiao Bai, Suihanjin Yu, Kun Yu, Zhiwei Li, and Kuiyuan Yang. *Adaptive Unimodal Cost Volume Filtering for Deep Stereo Matching*. **AAAI**, 2020.
8. Xin Qiao, Chenyang Ge, **Youmin Zhang**, Yanhui Zhou, Fabio Tosi, Matteo Poggi, Stefano Mattoccia. *Depth Super-Resolution from Explicit and Implicit High-Frequency Features*. **CVIU**, 2023.
9. Xiaoli Huang, Tongge Xu, Lvan Jiao, Yueran Zu, **Youmin Zhang**. *Adaptive Beam Search Decoding for Discrete Keyphrase Generation*. **AAAI**, 2021.
10. Suihanjin Yu, **Youmin Zhang**, Chen Wang, Xiao Bai, Liang Zhang, Edwin R Hancock. *HMFlow: Hybrid Matching Optical Flow Network for Small and Fast-Moving Objects*. **ICPR**, 2021.

Work Experience

Jiangxi Research Institute of Beihang University

RESEARCHER SCIENTIST

- Development and validation of Visual SLAM for robot (TurtleBot2) navigation and scene reconstruction.

Jiangxi, China

Sept. 2020 - April. 2021

Y-tech, Kuaishou Technology

RESEARCH INTERNSHIP

- Monocular Depth Estimation for Hybrid Augmented Reality.

Beijing, China

Mar. 2020 - Sept. 2020

Deep Motion

RESEARCH INTERNSHIP, MENTOR: KUIYUAN YANG

- Studying stereo matching related problems for Automatic Driving.
- Adaptive Unimodal Cost Volume Filtering for Deep Stereo Matching. Accepted to AAAI 2020.

Beijing, China

Nov. 2018 - Dec. 2019

Honors & Awards

INTERNATIONAL

2016 **Silver Medal**, The ACM-ICPC Asia Regional Programming Contest

*Changchun,
China*

DOMESTIC

2018-2019 **National Scholarship**, For postgraduates

China

2013-2017 **National Motivational Scholarship**, For 4 consecutive years

China

2015 **First Prize**, The 2015 ACM-ICPC China Northeast Invitational Programming Contests

China

2015 **First Prize**, The 2015 Liaoning Province ACM-ICPC Contest

China