

Zhang Qi

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EDUCATION

UNIVERSITY OF GLASGOW

MSC IN DATA SCIENCE
2022.09 - now | Glasgow, UK
Merit with A3 in dissertation

THE NORTH UNIVERSITY OF CHINA

BSC IN SOFTWARE ENGINEERING
2018 - 2022 | Tai yuan, China
Bachelor in Software Engineering
WA(Weighted Average): 85.98 / 100

AWARDS

SCHOLARSHIP

*the 2nd-Class Scholarship (RMB 1200)
*the 3rd-Class Scholarship (RMB 600)
*the Science and Technology Innovative Scholarship of Yu Xin (RMB 1000)

CONTEST

MATHEMATICAL CONTEST IN MODELING

*S Prize | As member

CONTEMPORARY UNDERGRADUATE MATHEMATICAL CONTEST IN MODELING

*Provincial Second Prize | As leader

LAN QIAO CUP ALGORITHM CONTEST

*Provincial-level Third Prize

LINKS

Github:58+stars/program// **Zhang Qi**

YouTube:// **My work**

Bili:8000+viewers// **My work**

SKILLS

PROGRAMMING

Familiar:

C • C++ • Shell • Python • Latex •
TensorRT • Pytorch

Servers Used:

Linux(My personal laptop is equipped with Ubuntu20.04)

THEORY

3D Reconstruction

SFM • vSLAM • MVS • TSDF

Deep Learning:

Faster-R-CNN • FCOS • YOLOX

TOOLS

GCC • Vim • gedit • StarUML • ROS •
VisualDesigner • PCL • EVO • Capcut

PROJECTS

MULTIPLE MAPPING APPROACHES USING POINT, LINE AND SEMANTIC PLANE SLAM | Almost done | Second author
SEMANTIC-DEPTH ENHANCED LITE MONOCULAR VSLAM IN DYNAMIC ENVIRONMENTS | Master dissertation | First author
Sep 2023 | Glasgow, UK

- **METHOD OVERVIEW:**

Estimating the depth using transformer network and clustering the mask inside Yolox boxes with motion consistency checking.

- **METHOD EFFECTS:**

Operating at 17.2FPS and having better accuracy than PVO(2023CVPR)¹.

DPL-SLAM: ENHANCING DYNAMIC POINT-LINE SLAM THROUGH DENSE SEMANTIC METHODS | Under review by IEEE sensors | Second author
July 2023 | Glasgow, UK

- **METHOD OVERVIEW:**

Using line features to achieve better performance with YOLOX-s and motion consistency checking.

- **METHOD EFFECTS:**

The new self-designed algorithm has better accuracy.

SEMANTIC SLAM FOR MOBILE ROBOTS IN DYNAMIC ENVIRONMENTS BASED ON VISUAL CAMERA SENSORS | Accepted by Measurement Science and Technology | First and Corresponding author
July 2022 | Tai yuan, China

- **METHOD OVERVIEW:**

This method combines ORB-SLAM3, YOLOX-s and motion consistency checking.

- **METHOD EFFECTS:**

Classes detected by the semantic method can significantly benefit the system's accuracy.

CDS-SLAM: SEMANTIC MAPPING

June 2022 | Tai Yuan, China

Undergraduate dissertation(95/100).

- **METHOD OVERVIEW:**

1. The semantic module only combines the ORB-SLAM3 and TensorRT optimized YOLOX-s
2. The mapping module refers to a system for semantic Labelling 3D Point Cloud in vSLAM¹.

- **OPEN SOURCE WORK:**

The work is open source on **Github** and presented on **Bili** (8000+v).

1. X. Qi, S. Yang, and Y. Yan, Deep Learning Based Semantic Labelling of 3D Point Cloud in Visual SLAM, 10 2018, vol. 428, p. 012023.

2. W. Ye... "Pvo: Panoptic visual odometry," in CVPR, 2023, pp. 9579–9589.