Yawen Li

Nationality: Chinese
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EDUCATION & HONORS

Southeast University (SEU), Nanjing, Jiangsu, China
School of Instrument Science & Engineering
Master of Instrument Science & Technology *Expected Jun. 2023*
G.P.A. 3.88/4.8 Average Grade 88.97/100

- Postgraduate Academic Scholarship for three consecutive years *Oct. 2020-Present*
- Outstanding graduate *Oct. 2022*

Hefei University of Technology (HFUT), Hefei, Anhui, China
School of Instrument Science & Opto-electronics Engineering
Bachelor of Measurement, Control Technology & Instrumentation *Jun. 2020*
G.P.A. 3.79/4.3 Rank 4/163

- Academic Scholarship for three consecutive years (top 5%) *Dec. 2017-Dec. 2019*
- Instrument Scholarship *Dec. 2018*
- Outstanding student for two consecutive years *Dec. 2018-Dec. 2019*
- Outstanding undergraduate *Jun. 2020*

PAPERS & PATENTS

[1] **Yawen Li**, Guangming Song, et al. Semantic stereo visual SLAM towards outdoor dynamic environment based on ORB-SLAM2, Industrial Robot: The International Journal of Robotics Research and Application, 2023, 50(3): 542-554. https://doi.org/10.1108/IR-09-2022-0236

[2] Fei Wang, Guangming Song, Juzheng Mao, **Yawen Li**, et al. Internal Defect Detection of Overhead Aluminum Conductor Composite Core Transmission Lines with an Inspection Robot and Computer Vision, IEEE Transactions on Instrumentation and Measurement, 2023. https://doi.org/10.1109/TIM.2023.3265104

[3] Zichao Ji, Guangming Song, Fei Wang, **Yawen Li**, and Aiguo Song. Design and control of a snake robot with a gripper for inspection and maintenance in narrow spaces, IEEE Robotics and Automation Letters, 2023. https://doi.org/10.1109/LRA.2023.3265591

[4] Guangming Song, **Yawen Li**, et al. "Remote installation system and method of grout nipple for repairing crack of underwater tunnel", 2022.CN202210783503.5. **Tips: This is a patent in Chinese**.

[5] Ruijun Li, **Yawen Li**, et al. "A three dimensional high sensitivity micro-dynamometer based on CMOS sensor", 2021.CN109827680B. **Tips: This is a patent in Chinese.**

AWARDS

- **Honorable Mention**, 2018 Interdisciplinary Contest in Modeling.
- **The Second Prize**, Fourteenth National Undergraduate NXP Cup Smart Car Competition in 2019.
- **The Second Prize**, 2018 National English Competition for College Students.
- **The Third Prize**, 2017 Mathematical Contest in Modeling in Anhui.
- **The Second Prize**, 2019 "Internet+" Innovation and Entrepreneurship Competition in HFUT.

RESEARCH EXPERIENCE

Master research in SEU

Key Laboratory of Remote Measurement and Control Technology in Jiangsu

- **Semantic SLAM towards Outdoor Dynamic Environment** *Apr. 2022-Present*
  - Used ORB-SLAM2 as the framework, run the algorithm under Ubuntu 18.04 and verified the effectiveness of the proposed algorithm with KITTI dataset and ZED2 self-collection dataset.
  - Embedded the Deeplabv3+ semantic segmentation model into the stereo model of ORB-SLAM2 to guarantee recognition of dynamic objects.
  - Determined the dynamic hierarchy of objects in the scene based on the prior knowledge.
  - Proposed a dynamic model to judge the motion status of objects by comparing the pixel displacement.
  - Designed a feature selection strategy to discard the feature points of dynamic regions.

- **A Power Line Inspection Robot for the Non-destructive Testing of Overhead Aluminum Conductor Composite Core Wires** *Jun. 2020-Present*
  - Designed the robot remote control terminal with Qt, and completed the program writing with C++. The main functions of the robot remote control terminal are remote connection, parameter setting, real-time monitoring, wire defect identification, etc.

Undergraduate research in HFUT

- **A three dimensional micro Newton dynamometer** *Apr. 2018-Apr. 2019*
  - Completed the design of the internal optical circuit, the design of the signal amplification circuit, and the test of the dynamometer index.

- **Automatic License Plate Recognition based on LabVIEW** *Apr. 2017-Apr. 2018*
  - Recognized license plate number through the process of image pre-processing, license plate positioning, skeletonized extraction of license plate characters, segmentation of characters by vertical projection method, and OCR recognition.

PRACTICAL EXPERIENCE

Teaching Assistant for undergraduate Wireless Sensor Network *Apr. 2022–Jun. 2022*

Minister in the graduate student union *Jun. 2021–Jun. 2022*

SKILLS

Information technology: Microsoft Office: Excel, Word, PowerPoint, Visio, Adobe Illustrator, etc.

Programming: MATLAB, LabVIEW, C/C++, Python, Ubuntu, ROS, etc.

Language: TOEFL 106

Personal Website

https://liyawen.netlify.app

https://www.youtube.com/watch?v=4_UvuAsD1f4