

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, 8(5): 3086-3093. <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