

## Curriculum Vitae

**NAME:** Hongfei Liu      **M/F:** Male  
**DOB:** 01 November 1996      **PHONE:** (+86)17721234957  
**NATIONALITY:** Chinese      **E-MAIL:** liuhongfei@shu.edu.cn  
**ADDRESS:** No.99 Shangda Road, Shanghai, China, 200444. [HOME PAGE](#)

### QUALIFICATIONS

09/2018-04/2024      Master and PhD Student in Mechanical Engineering, (Successive Master-Doctor Program), Shanghai University, China.  
10/2022-10/2023      Visiting PhD Student in Mechanical Engineering, The University of Auckland, New Zealand.  
09/2014-07/2018      Bachelor of Mechanical Engineering (Honours), Qingdao University of Science and Technology, China.

### SIGNIFICANT DISTINCTIONS

- "FangYao" scholarship,  $\approx 1\%$ , 2021, Shanghai University, China
- First-class scholarship, 20%, 2019, 2020 and 2021, Shanghai University, China.
- Outstanding graduate, 10%, 2018, Qingdao University of Science and Technology, China.

### RESEARCH TOPICS

- Application of **artificial neural network** algorithms (deep learning, few-shot learning) to perform multi-type weld seam classification based on image data.
- Development of **integrated vision sensors and software** to extract multiple welding parameters.
- Construction of **data integration and analysis systems** for robotic welding digital transformation.

**Professional Skills:** Python, OpenCV, PyTorch, Keras (TensorFlow), QT, SolidWorks, RoboDK, Blender

### SELECTED PUBLICATIONS

- [1] **H. Liu**, Y. Tian, Y. Lu, J. Feng, T. Wang, L. Li, & M. Jiang, (2024). A systematic framework for tackling anomalous pre-welding workpiece postures with regular butt joints based on prototype features. *Journal of Manufacturing Systems*, 72: 323-337. Doi: [10.1016/j.jmsy.2023.11.018](https://doi.org/10.1016/j.jmsy.2023.11.018), (CiteScore:**23.3**, Impact Factor:**12.2**, JCR: **Q1**).
- [2] **H. Liu**, Y. Tian, L. Li, Y. Lu, J. Feng, & F. Xi, (2023). Full-cycle data purification strategy for multi-type weld seam classification with few-shot learning. *Computers in Industry*, 150, 103939. Doi: [10.1016/j.compind.2023.103939](https://doi.org/10.1016/j.compind.2023.103939), (CiteScore:**18.9**, Impact Factor:**8.2**, JCR: **Q1**).
- [3] **H. Liu**, Y. Tian, L. Li, Y. Lu, & F. Xi, (2023). One-shot, integrated positioning for welding initial points via co-mapping of cross and parallel stripes. *Robotics and Computer-Integrated Manufacturing*, 84, 102602. Doi: [10.1016/j.rcim.2023.102602](https://doi.org/10.1016/j.rcim.2023.102602), (CiteScore:**24.1**, Impact Factor:**9.1**, JCR: **Q1**).
- [4] Y. Tian, **H. Liu**, L. Li, G. Yuan, J. Feng, Y. Chen, & W. Wang, (2020). Automatic identification of multi-type weld seam based on vision sensor with silhouette-mapping. *IEEE Sensors Journal*, 21(4), 5402-5412. Doi: [10.1109/JSEN.2020.3034382](https://doi.org/10.1109/JSEN.2020.3034382), (CiteScore:**7.7**, Impact Factor:**4.3**, JCR: **Q1**).
- [5] Y. Tian, **H. Liu**, L. Li, W. Wang, J. Feng, F. Xi, & G. Yuan, (2020). Robust identification of weld seam based on region of interest operation. *Advances in Manufacturing*, 8, 473-485. Doi: [10.1007/s40436-020-00325-y](https://doi.org/10.1007/s40436-020-00325-y), (CiteScore:**9.1**, Impact Factor:**4.2**, JCR: **Q2**).

### PROJECT CONTRIBUTION

- [1] Key technology research and demonstration line construction of advanced laser intelligent manufacturing equipment from Shanghai Lingang area development administration. (Pre-welding system development)
- [2] Automatic oral sampling robot based on deep learning and image processing. (Oral feature extraction)
- [3] Intelligent scoring platform development for robotics teaching based on image processing. (Target feature segmentation and statistics)
- [4] Grain feature extraction and analysis system for terrazzo floors. (Grain feature extraction and analysis)