Curriculum Vitae

NAME:	Hongfei Liu	**M/F:**	Male
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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, ≈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 analysis and automated welding 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, *(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, *(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, *(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, *(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, *(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）