Curriculum Vitae

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QUALIFICATIONS

Expected time for earning a PhD degree: 12/2023.

10/2022-Prensent Visiting PhD Student in Mechanical Engineering, The University of Auckland, New Zealand.

09/2018-Prensent Master and PhD Student in Mechanical Engineering, (Successive Master-Doctor Program), Shanghai University, China.

09/2014-07/2018 Bachelor of Mechanical Engineering (Honours), Qingdao University of Science and Technology, China.

SIGNIFICANT DISTINCTIONS

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

RESEARCH TOPICS

- Application of **artificial intelligence algorithms** to enhance pre-welding feature recognition.
- Development of **integrated vision sensors and software** to upgrade robotic welding.
- Construction of **a cloud-based data integration and analysis system (pre-welding)** to serve laser welding digital transformation.

REPRESENTATIVE PUBLICATIONS

[1] (Under Review) **H. Liu**, Y. Tian, Y. Lu, J. Feng, T. Wang, L. Li, & M. Jiang. A systematic framework for tackling anomalous pre-welding workpiece postures with regular butt joints based on prototype features. *Journal of Manufacturing Systems. (CiteScore:**16.0**, Impact Factor:**12.1**, Top Journal).*

[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:**21.1**, Impact Factor:**10.0**, Top Journal).*

[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:**20.1**, Impact Factor:**10.4**, Top Journal).*

[4] 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:**7.1**, Impact Factor:**5.2**)*.

[5] 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:**7.0**, Impact Factor:**4.3**)*.

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] Fully Automated Nucleic-acid Sampling Robot Development of Shanghai University. （Facial feature extraction and localization）

[3] Terrazzo Grain Feature Extraction and Analysis System. （Grain feature extraction and analysis）

Above data updated to August 2023.