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Research Interest

- Multimodal Industrial Vision (Experienced)
- Medical Image Analysis (Experienced)
- Vision-Language-Action Models (Rookie)

Publications

[†] Equal Contribution, ^{*} Corresponding Author

- [1] **Shuai Jiang**[†], Yunfeng Ma[†], Jingyu Zhou, Yuan Bian, Yaonan Wang, and Min Liu*, [Resilient Multimodal Industrial Surface Defect Detection with Uncertain Sensors Availability](#), *IEEE/ASME Transactions on Mechatronics (T-Mech)*, 2025.
- [2] **Shuai Jiang**, Kai Hu*, Yuan Zhang, and Xieping Gao, [Joint Segmentation of FAZ and RVs in OCTA Images with Auxiliary 3D Image Projection Learning](#), *IEEE Transactions on Instrumentation and Measurement (T-IM)*, 2024.
- [3] **Shuai Jiang**, Min Liu*, Yuxi Liu, Yunfeng Ma, and Yaonan Wang, [Category-agnostic Cluster-guided Selective Suppression for Weakly Supervised Surface Defect Localization](#), *IEEE Transactions on Instrumentation and Measurement (T-IM)*, 2024.
- [4] Kai Hu, **Shuai Jiang**, Dong Liu, and Xieping Gao*, [Segmentation of Retinal Layer Boundary in OCT Images Based on End-to-end Deep Neural Network and Graph Search](#), *Journal of Software (软件学报)*, 2023.
- [5] Kai Hu, **Shuai Jiang**, Yuan Zhang, Xuanya Li, and Xieping Gao*, [Joint-Seg: Treat Foveal Avascular Zone and Retinal Vessel Segmentation in OCTA Images as a Joint Task](#), *IEEE Transactions*

on Instrumentation and Measurement (T-IM), 2022.

- [6] Meng Gao†, Yunfeng Ma†, **Shuai Jiang**, Qi Su, Xiangfei Meng, Yaonan Wang, and Min Liu*, [PANDA: Progressive Adaptive Network for Defect-aware Few-shot Segmentation](#), *IEEE Transactions on Industrial Informatics (T-II)*, 2025.
- [7] Yunfeng Ma, Min Liu*, **Shuai Jiang**, Jingyu Zhou, Yuan Bian, and Yaonan Wang, [Efficient Feature Coupling for Industrial Few-shot Defect Segmentation](#), *IEEE/ASME Transactions on Mechatronics (T-Mech)*, 2025.
- [8] Yuxi Liu†, Min Liu†, **Shuai Jiang**, Yi Tang*, and Yaonan Wang, [Searching Efficient Semantic Segmentation Architectures via Dynamic Path Selection](#), *The 39-th Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2025.
- [9] Yunfeng Ma, Min Liu*, **Shuai Jiang**, Xueping Wang, Yuan Bian, and Yaonan Wang, [Multi-Context Aggregation Network with Foreground Correction for Automated Few-Shot Defect Segmentation](#), *IEEE Transactions on Automation Science and Engineering (T-ASE)*, 2025.
- [10] Jingyu Zhou, Min Liu*, Yunfeng Ma, **Shuai Jiang**, and Yaonan Wang, [Multi-View Attention Guided Feature Learning for Unsupervised Surface Defect Detection](#), *IEEE/ASME Transactions on Mechatronics (T-Mech)*, 2025.
- [11] Yuan Bian, Min Liu*, Yunqi Yi, Xueping Wang, **Shuai Jiang**, Yaonan Wang, [Prompt-driven Transferable Adversarial Attack on Person Re-Identification with Attribute-aware Textual Inversion](#), *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2025.
- [12] Yuxi Liu†, Yunfeng Ma†, Yi Tang, Min Liu*, **Shuai Jiang**, and Yaonan Wang, [Automated Neural Architecture Design for Industrial Defect Detection](#), *IEEE/ASME Transactions on Mechatronics (T-Mech)*, 2025.
- [13] Yaoyi Cai, Dan Huang, ZhiXun Li, Yunfeng Ma*, **Shuai Jiang**, Zekai Yao*, and Min Liu*, [EGCR-Net: Edge-Guided Cross-Region Network for Semi-Supervised Soldering Defect Detection](#), *IEEE Transactions on Instrumentation and Measurement (T-IM)*, 2025.
- [14] Jingyu Zhou†, Yunfeng Ma†, Zhenhai Li, Min Liu*, **Shuai Jiang**, and Yaonan Wang, [3D Imaging Optical Path-Guided Viewpoint Planning Method for Free-Form Surface Inspection](#), *IEEE/ASME Transactions on Mechatronics (T-Mech)*, 2025.
- [15] Xihang Cheng†, Xiangfei Meng†, Min Liu*, Yuxi Liu, Yunfeng Ma, **Shuai Jiang**, and Yaonan Wang, [Neural Architecture Search-based Detection Method and System for Aero-engine Blade Surface Defects](#), *SCIENTIA SINICA Informationis (中国科学：信息科学)*, 2025.

Education

[†] *Indicates expected*

Sept. 2023 – Jun. 2027 † Ph.D., Control Science and Engineering, *Hunan University*

Supervisors: [Min Liu](#) and [Yaonan Wang](#)

Oct. 2020 – Jun. 2023 M.Eng., Computer Technology, *Xiangtan University*

Supervisors: [Kai Hu](#) and [Xieping Gao](#)

Sept. 2016 – Jun. 2020 B.Sc., Network Engineering, *Xiangtan University*

Selected Honours and Awards

2025 GENCA Scholarship, **Top 1%**, *Hunan University*

2023 Excellent Graduates, **Top 1%**, *Hunan Provincial Department of Education*

2023 Principal Scholarship, **Top 1%**, *Xiangtan University*

2022 China National Scholarship, **Top 1.2%**, *Ministry of Education of the People's Republic of China*

2022 Special Scholarship, **Top 5%**, *Xiangtan University*

2021 Special Scholarship, **Top 5%**, *Xiangtan University*

Academic Services

Journal Reviewer

- T-MI, T-IM, J-BHI, Scientific Data, IEEE Access

Conference Reviewer

- NeurIPS, CVPR, ICCV, AAAI, ACMMM, ICASSP, ICME