

# Lingjie Su

Wuhan 430074, People's Republic of China | Tel: (+86) 15623755862 | Email: [ljsu@hust.edu.cn](mailto:ljsu@hust.edu.cn) | [Homepage](#)

## EDUCATION

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<b>Huazhong University of Science and Technology</b> , Wuhan, China Candidate for Master of Engineering, School of Mechanical Science and Engineering	<i>Sep. 2022 – Jun. 2025</i> GPA: 91.04/100
<b>Huazhong University of Science and Technology</b> , Wuhan, China Bachelor of Engineering, School of Mechanical Science and Engineering	<i>Sep. 2018 – Jun. 2022</i> GPA: 90.20/100

## RESEARCH EXPERIENCE

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<b>Probability-based point cloud registration</b>	<i>Jan. 2024 – Present</i>
<ul style="list-style-type: none"><li>Designed pairwise point cloud registration method by formulating the problem as a GMM fitting task, incorporating locally consistent constraint to enhance robustness, and deriving a closed-form solution using EM algorithm</li><li>Extend pairwise registration to joint registration to solve the problem of simultaneously registering multiple point clouds</li></ul>	
<b>Mesh reconstruction and denoising</b>	<i>Dec. 2022 – Present</i>
<ul style="list-style-type: none"><li>Reconstructed the implicit B-spline surface from point cloud, fitted by 3L algorithm with global tension constraint</li><li>Generated mesh data from an implicit surface function using the Marching Cubes method</li><li>Proposed an anisotropic bilateral filtering method for mesh denoising to enhance mesh quality</li></ul>	
<b>Software development for architectural point cloud</b>	<i>Aug. 2022 – Dec. 2023</i>
<ul style="list-style-type: none"><li>Preprocessing of architecture point cloud: including down-sampling, registration, and filtering.</li><li>Component extraction, including I-beam, angle steel, and tubes, and parameter calculation.</li></ul>	
<b>Multi-view point cloud registration</b>	<i>Oct. 2021 – Apr. 2022</i>
<ul style="list-style-type: none"><li>Reconstructed marker points from images using elliptic fitting, polar constraints, and triangulation. Calculated coordinate transformations between different views using spatial invariant characteristics</li><li>Refined coordinates under different views through graph optimization using g2o framework</li></ul>	

## PUBLICATIONS

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- L. Su, W. Xu, S. Zhao, Y. Cheng, and W. Li, "A robust probability-based joint registration method of multiple point clouds considering local consistency," in *Proc. IEEE Int. Conf. Robot. Autom. (ICRA)*, 2025, Under Review, [preprint](#)
- L. Su, W. Xu, and W. Li, "Robust point cloud registration in robotic inspection with locally consistent gaussian mixture model," *IEEE Trans. Instrum. Meas.*, 2024, Major Revisions. [preprint](#)
- L. Su et al., "An adaptive anisotropic bilateral filtering method for mesh data in scale space," *Meas. Sci. Technol.*, vol 35, no. 6, 2024, [doi: 10.1088/1361-6501/ad317c](https://doi.org/10.1088/1361-6501/ad317c)

## RESEARCH INTERESTS

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Point cloud registration, Surface reconstruction, Mesh denoising

## SKILLS

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**Language:** English (IELTS: 7.0), Chinese (Native)

**Computer Skills:** C++, Matlab, PCL, OpenCV, Ceres, Eigen, g2o, Python