Lingjie Su

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

EDUCATION

Huazhong University of Science and Technology, Wuhan, China *Sep. 2022 – Jun. 2025*
Candidate for Master of Engineering, School of Mechanical Science and Engineering
GPA: 91.04/100

Huazhong University of Science and Technology, Wuhan, China *Sep. 2018 – Jun. 2022*
Bachelor of Engineering, School of Mechanical Science and Engineering
GPA: 90.20/100

RESEARCH EXPERIENCE

Probability-based point cloud registration *Jan. 2024 – Present*
- 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
- Extend pairwise registration to joint registration to solve the problem of simultaneously registering multiple point clouds

Mesh reconstruction and denoising *Dec. 2022 – Present*
- Reconstructed the implicit B-spline surface from point cloud, fitted by 3L algorithm with global tension constraint
- Generated mesh data from an implicit surface function using the Marching Cubes method
- Proposed an anisotropic bilateral filtering method for mesh denoising to enhance mesh quality

Software development for architectural point cloud *Aug. 2022 – Dec. 2023*
- Preprocessing of architecture point cloud: including down-sampling, registration, and filtering.
- Component extraction, including I-beam, angle steel, and tubes, and parameter calculation.

Multi-view point cloud registration *Oct. 2021 – Apr. 2022*
- Reconstructed marker points from images using elliptic fitting, polar constraints, and triangulation. Calculated coordinate transformations between different views using spatial invariant characteristics
- Refined coordinates under different views through graph optimization using g2o framework

PUBLICATIONS

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, Under Review. 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/ad317e

RESEARCH INTERESTS

Point cloud registration, Surface reconstruction, Mesh denoising

SKILLS

Language: English (IELTS: 7.0), Chinese (Native)
Computer Skills: C++, Matlab, PCL, OpenCV, Ceres, Eigen, g2o, Python