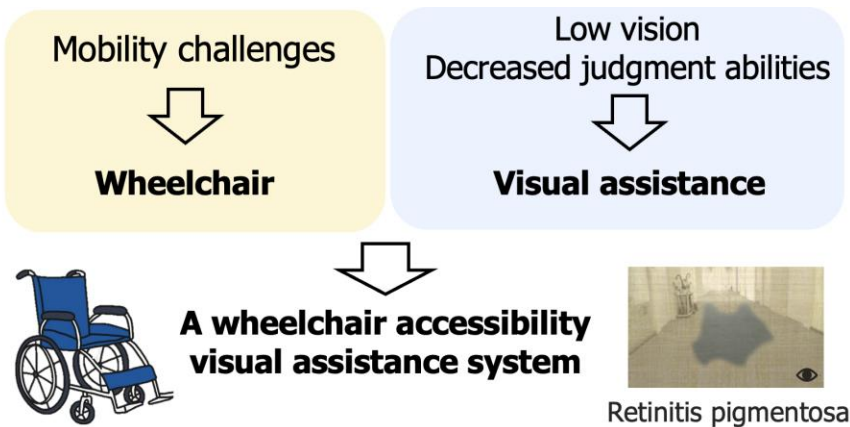


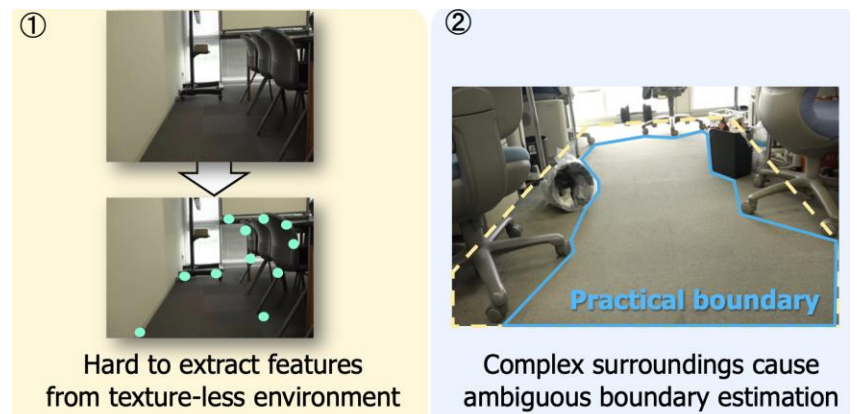
Geometry-Aware Contextual Reasoning-Based Indoor Accessible Area Detection for Visually Impaired Wheelchair Users

周凡湘 池永研究室 修士課程修了

Background

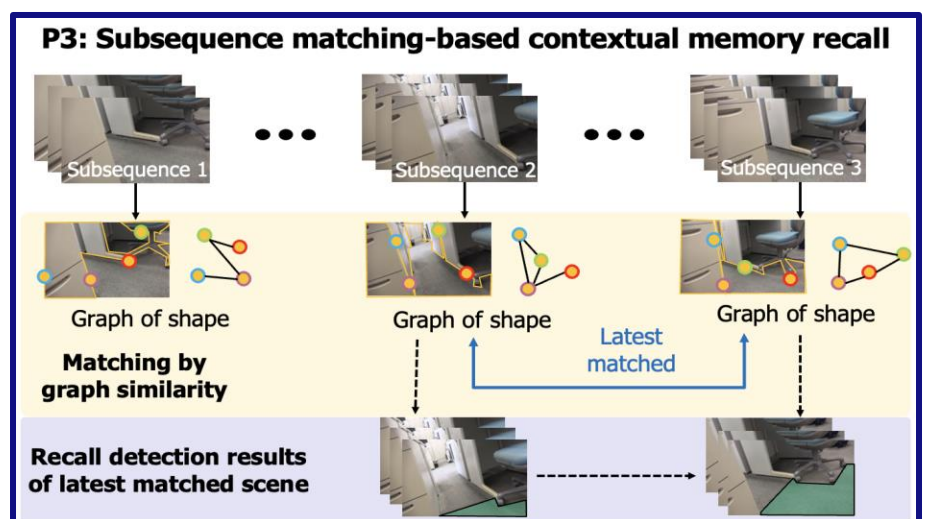
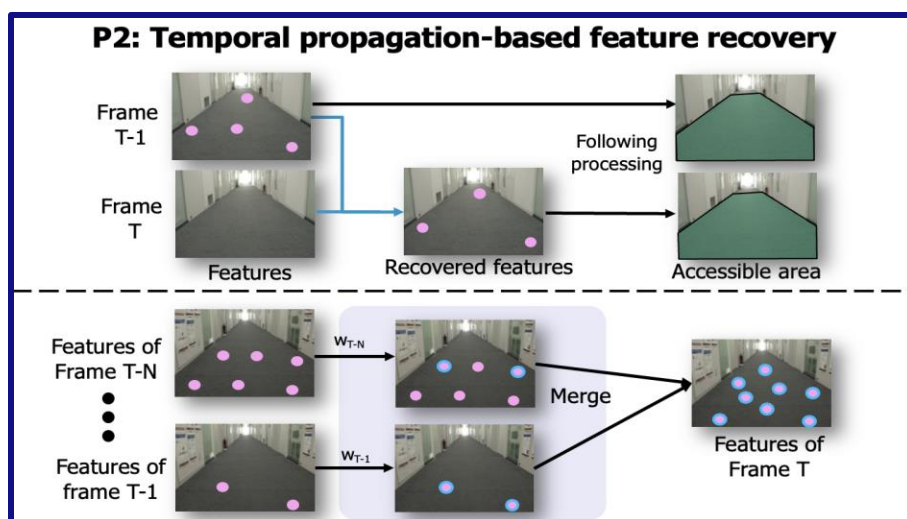
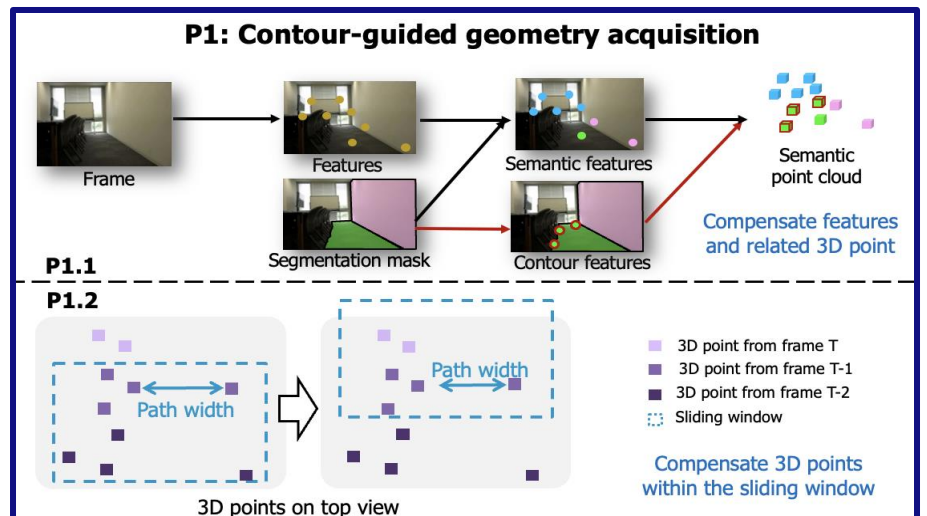
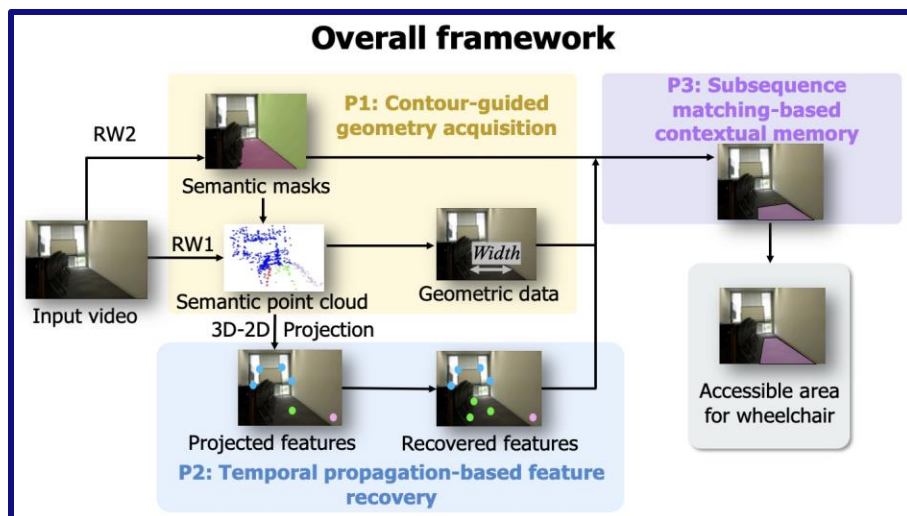


Challenges



Target Designing an indoor accessible area detection algorithm

Proposals



Experiment Results

	$mIoU$	$r_{success}$	$e_{width}(m)$
Baseline	0.343	15.48%	5.437
P1	0.753	68.93%	0.078
P2	0.820	75.34%	5.437
P1+P2	0.946	91.83%	0.078
P1+P2+P3	0.952	92.71%	0.078

Conclusion

- The proposed method achieves a mIoU of 0.952, a width error of 0.078m and a successful frame rate of 92.71%, compared to baseline results of 0.341, 5.437m and 15.48%, respectively

