

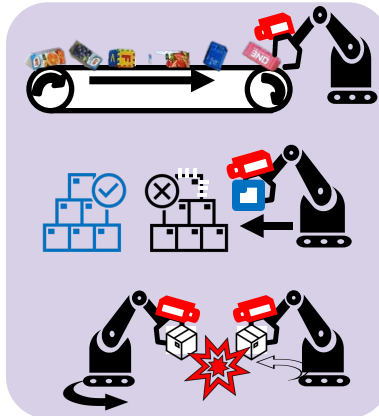
Candidate Expanded Parallel Matching and 2D-Grid Guided Sparse Point Cloud Filtering for Ultra-Low Delay Camera Pose Estimation

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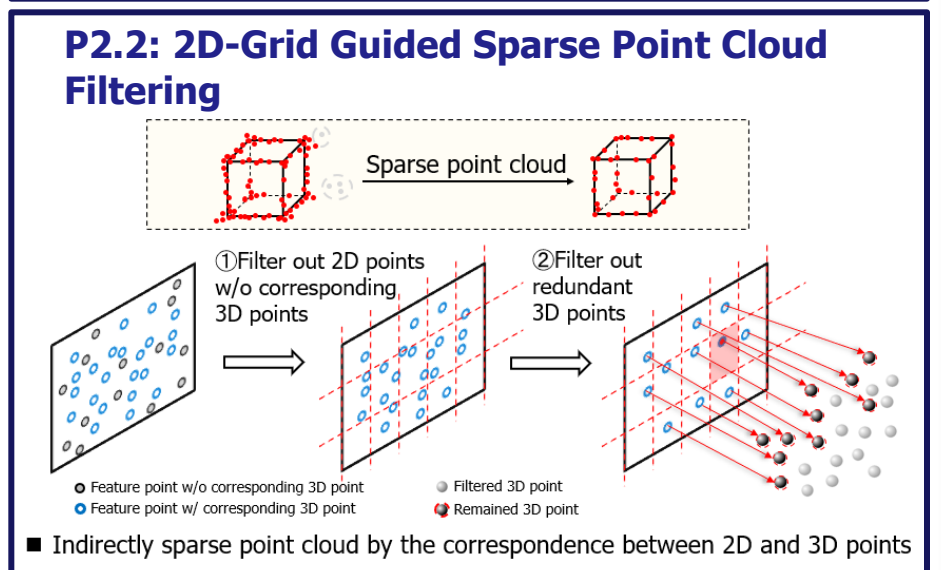
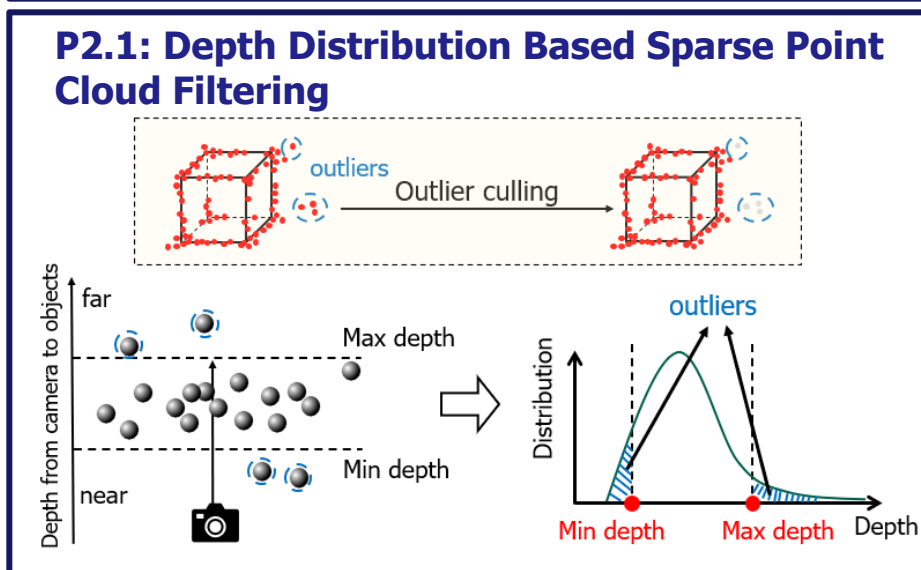
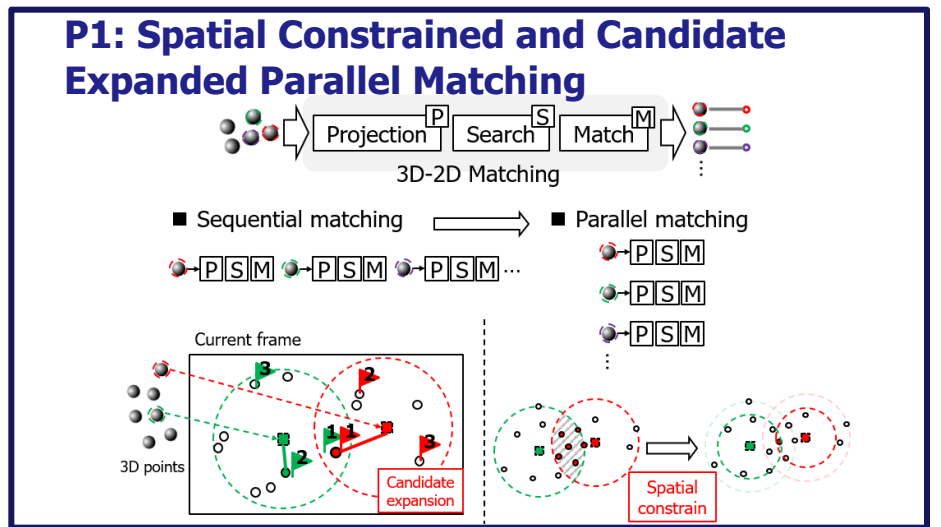
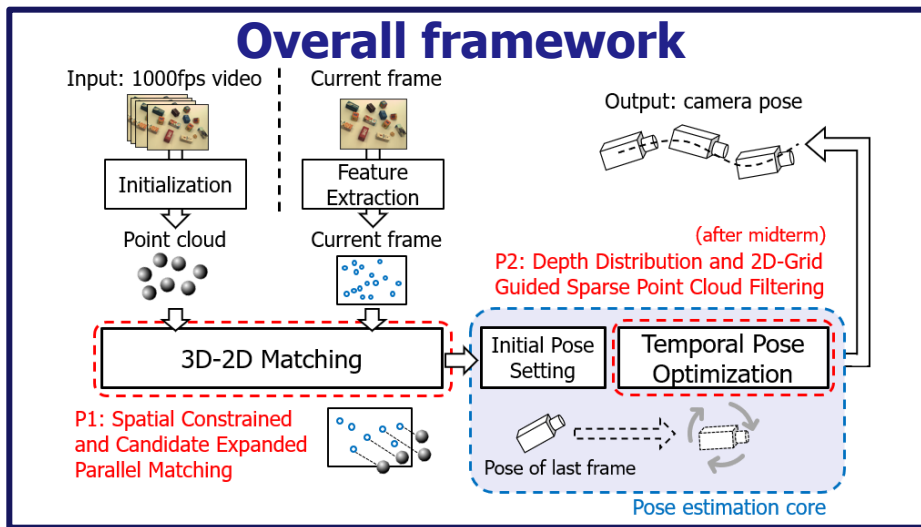
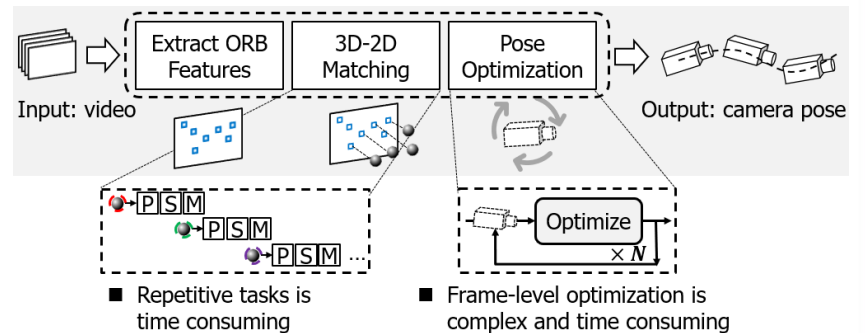
Background

- Application
 - Object grasping
 - Obtain environment information
 - Avoid collision

Proposed method



Problem statement



Experiments Result

Speed evaluation

Motion pattern	Baseline_aver (ms)	P1+P2_aver (ms)
horizontal	4.6737	2.0693
vertical	2.7173	1.4723
random	3.1146	1.2038

Conclusion

- The optimized algorithm runs no more than 2.5 ms per frame in pose optimization core, accelerated for 54.5%
- At the same time, the optimized algorithm achieve comparable accuracy to original system

