

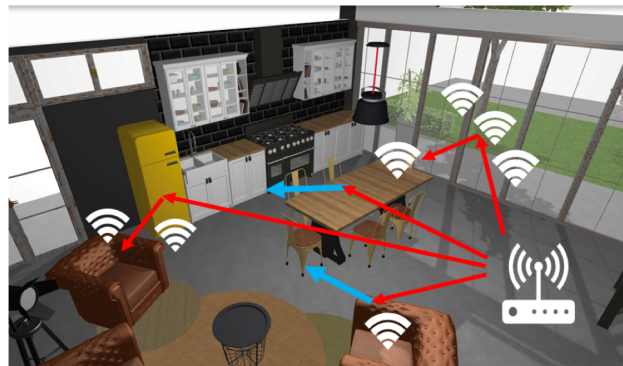
Key Points Trajectory and Multi-level Depth Distinction based Mirror and Glass Detection for Indoor 5G Signal Analysis

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Background

Application

- Indoor router deployment
- High speed and stable wireless communication
- ...



Target

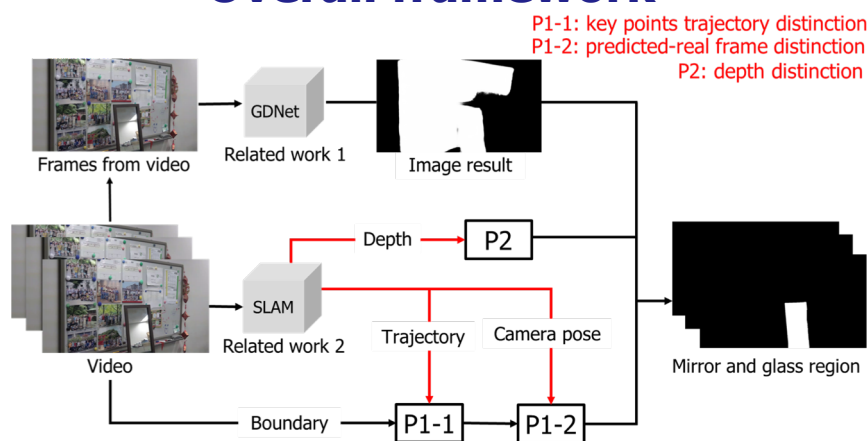
- More than 95% accuracy for mirror and glass detection

Challenges

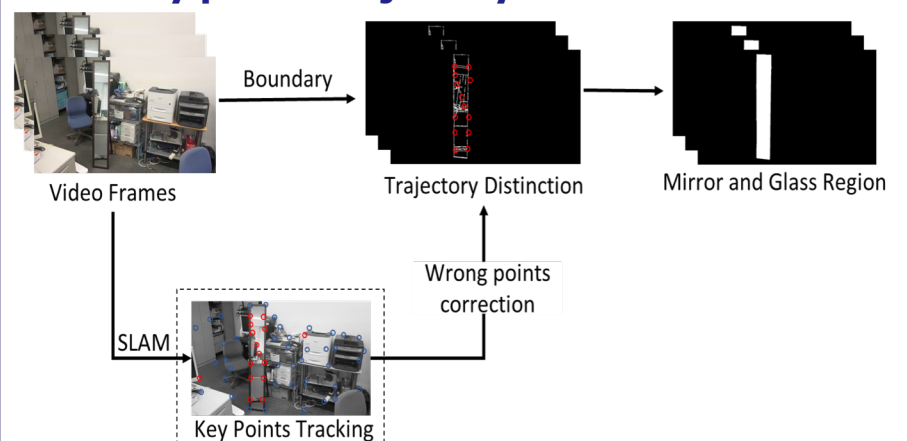
- No existing work
- Accuracy of related work is limited
- ...

Proposed method

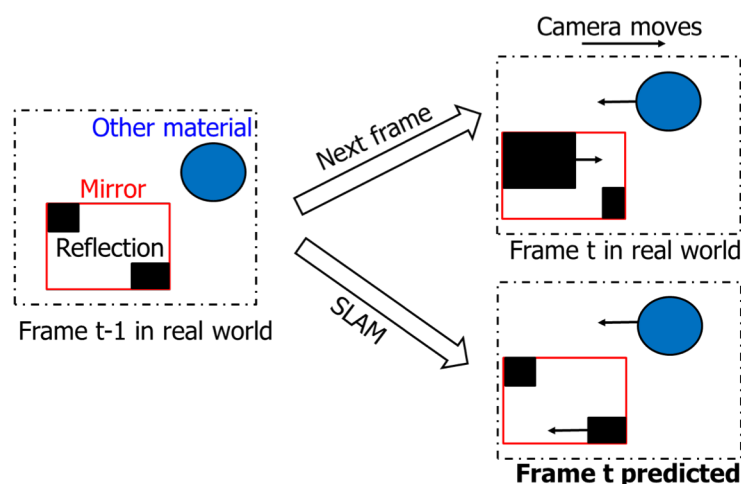
Overall framework



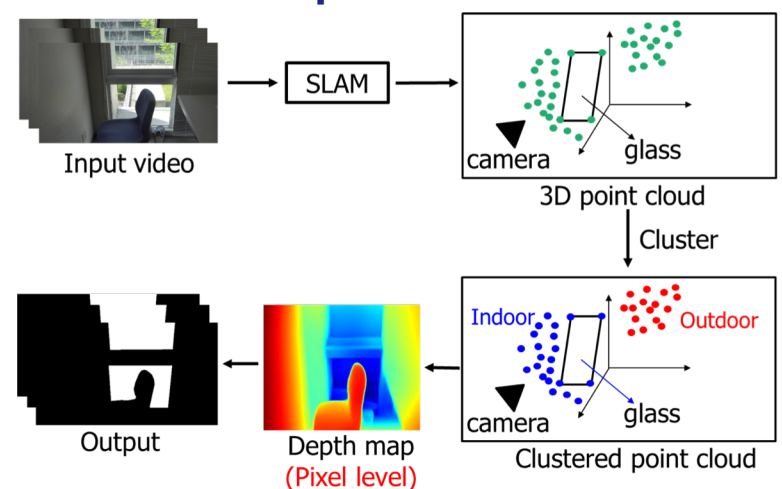
P1-1: Key points trajectory distinction



P1-2: Predicted-real frame distinction



P2: Multi-level depth distinction

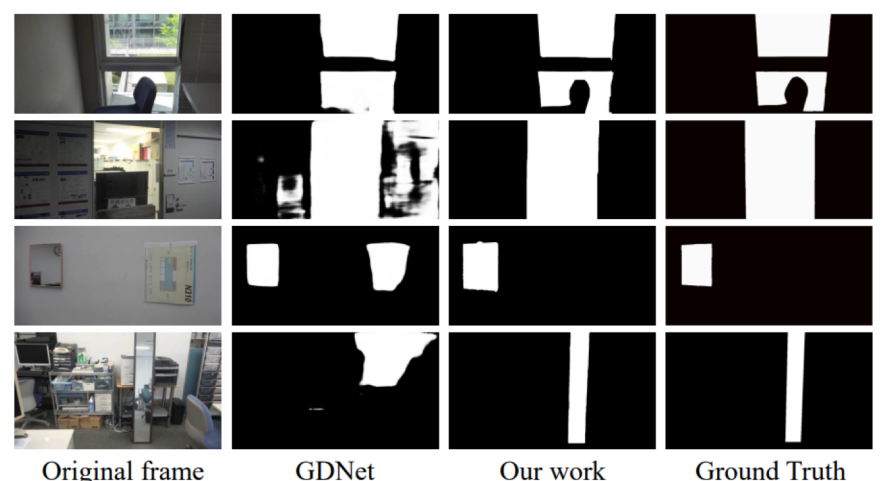


Experiments Result

		Success Rate			
		Related work 1		Our work	
		IoU>80%	IoU>85%	IoU>80%	IoU>85%
Mirror	Simple	36.4%	14.7%	96.9%	95.2%
	Complex	7.4%	1.7%	91.9%	84.3%
	Total	25.5%	10.2%	95.0%	91.1%
Glass	Simple	23.7%	11.8%	95.9%	86.9%
	Complex	7.1%	0.3%	93.9%	78.4%
	Total	17.0%	7.2%	95.1%	83.2%

Conclusion

- With the proposed method, detection accuracy reaches more than 95%



Original frame

GDNet

Our work

Ground Truth

