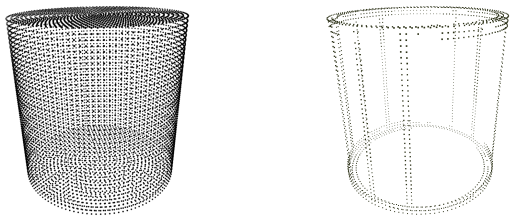
1 New synthetic Point Clouds results in Section 4.1

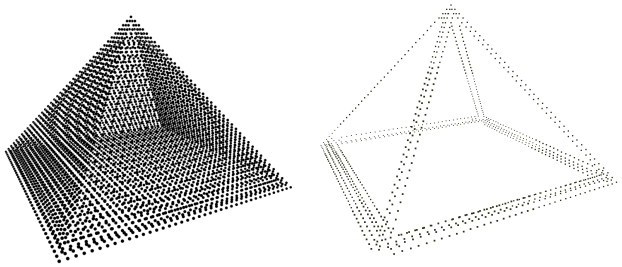


(a) Original Point Cloud. (b) Resampled Point Cloud.

Figure 1: Example of test point cloud and result with Cylinder shape.

	Kernel Filtering			Fast Resampling		
Noise Level	Precision	Recall	F1-Score	Precision	Recall	F1-Score
No noise	0.2212	0.9298	0.3524	0.2523	1	0.3981
20%	0.1667	0.6834	0.2647	0.1497	0.5912	0.2359
40%	0.0894	0.3566	0.1412	0.0064	0.2515	0.1003

Table 1: Numerical results of methods using cylinder shapes.

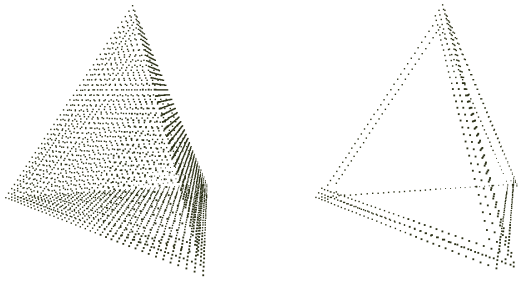


(a) Original Point Cloud. (b) Resampled Point Cloud.

Figure 2: Example of test point cloud and result with pyramid shape.

	Kernel Filtering			Fast Resampling		
Noise Level	Precision	Recall	F1-Score	Precision	Recall	F1-Score
No noise	0.4567	0.6860	0.5097	0.6750	0.9034	0.7168
20%	0.4191	0.5871	0.4538	0.4300	0.5696	0.4537
40%	0.3017	0.4024	0.3205	0.2345	0.2874	0.2395

Table 2: Numerical results of methods using pyramid shapes.



(a) Original Point Cloud. (b) Resampled Point Cloud.

Figure 3: Example of test point cloud and result with tetrahedron shape.

	Kernel Filtering			Fast Resampling		
Noise Level	Precision	Recall	F1-Score	Precision	Recall	F1-Score
No noise	0.5206	0.5686	0.5083	0.7700	0.8611	0.7592
20%	0.4408	0.5156	0.4429	0.5131	0.5595	0.4978
40%	0.3409	0.3625	0.3282	0.2760	0.2826	0.2593

Table 3: Numerical results of methods using tetrahedron shapes.

2 More visual results in Section 4.2

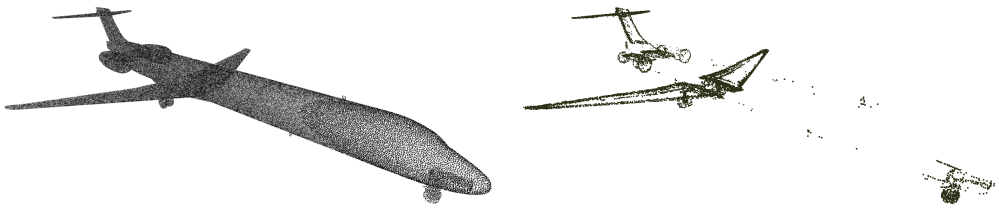


Figure 4: Sub-optimal case for airplane.

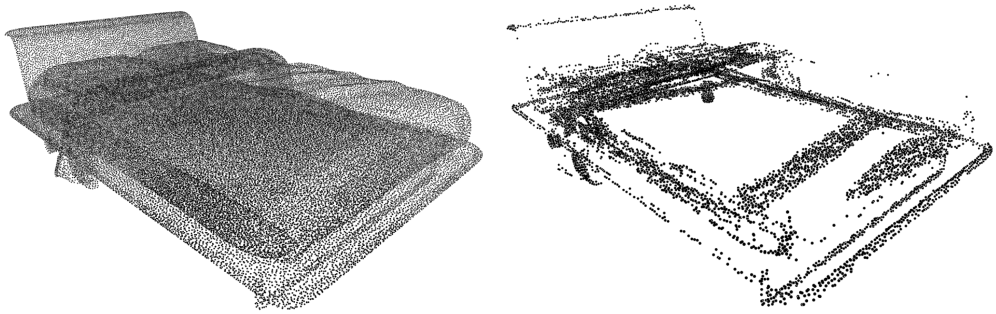


Figure 5: Sub-optimal case for bed.