5.2

	R@1	R@5	R@10	R@20	Time per Query
Cosplace					
Tokyo	65.1	79.7	86.0	89.5	
SuperPoint+LightGlue	82.9	86.7	87.9	89.5	3.55
LoFTR	84.8	87.9	88.6	89.5	3.73
SuperGlue	82.5	86.3	88.6	89.5	1.44
Sf	63.1	74.8	78.6	81.4	
SuperPoint+LightGlue	77.7	80.4	80.8	81.4	3.52
LoFTR	77.4	79.7	80.6	81.4	3.74
SuperGlue	76.7	79.4	80.5	81.4	1.41
Svox_night	33.3	51.5	59.1	67.7	
SuperPoint+LightGlue	60.6	65.1	66.3	67.6	3.52

LoFTR	61.4	65.4	66.2	67.6	3.69
SuperGlue	59.4	64.5	65.9	67.6	1.46
Svox_day	62.3	78.5	84.5	88.8	
SuperPoint+LightGlue	83.8	86.9	87.9	88.8	3.52
LoFTR	85.1	87.1	87.9	88.8	3.70
SuperGlue	81.3	85.9	87.4	88.8	1.47

	R@1	R@5	R@10	R@20	Time per Query
NetVLAD					
Tokyo	49.8	62.5	70.5	78.7	
SuperPoint+LightGlue	68.3	72.1	73.7	78.7	3.45
LoFTR	68.3	72.7	73.7	78.7	3.63
SuperGlue	69.5	72.7	74.9	78.7	1.27
Sf	27.2	43.8	50.3	56.2	

SuperPoint+LightGlue	53.2	55.4	55.8	56.2	3.44
LoFTR	53.6	55.3	55.8	56.2	3.62
SuperGlue	52.4	55.3	55.8	56.2	1.23
Svox_night	8.0	17.4	23.1	29.6	
SuperPoint+LightGlue	25.4	27.1	28.4	29.5	3.45
LoFTR	25.5	28.1	28.6	29.5	3.59
SuperGlue	24.5	26.6	28.1	29.5	1.30
Svox_day	35.4	52.7	58.8	65.8	
SuperPoint+LightGlue	61.7	63.1	64.2	65.8	3.45
LoFTR	61.6	63.6	64.5	65.8	3.60
SuperGlue	60.4	62.9	64.2	65.8	1.33

	R@1	R@5	R@10	R@20	Time per Query
MixVPR					

Tokyo	78.1	89.5	92.4	93.7	
SuperPoint+LightGlue	89.2	92.4	92.7	93.7	3.40
LoFTR	89.8	92.4	93.7	93.7	3.58
SuperGlue	86.7	91.7	93.3	93.7	1.26
Sf	70.2	79.0	81.3	83.9	
SuperPoint+LightGlue	81.4	83.3	83.7	83.9	3.40
LoFTR	80.1	82.9	83.7	83.9	3.58
SuperGlue	80.1	82.7	83.2	83.9	1.23
Svox_night	62.9	79.8	84.1	88.0	
SuperPoint+LightGlue	81.9	86.3	87.1	88.0	3.41
LoFTR	82.5	86.8	87.6	88.0	3.54
SuperGlue	81.9	86.5	87.5	88.0	1.31
Svox_day	85.4	93.0	94.7	95.9	
SuperPoint+LightGlue	91.7	95.0	95.6	95.9	3.41
LoFTR	93.4	95.0	95.3	95.9	3.56

SuperGlue	89.8	94.0	95.2	95.9	1.33

	R@1	R@5	R@10	R@20	Time per Query
MegaLoc					
Tokyo	94.9	97.5	98.4	99.0	
SuperPoint+LightGlue	94.3	98.4	99.0	99.0	3.57
LoFTR	94.9	97.5	98.4	99.0	3.78
SuperGlue	93.7	97.5	98.4	99.0	1.25
Sf	86.7	89.9	90.8	91.3	
SuperPoint+LightGlue	86.8	90.2	90.7	91.3	3.58
LoFTR	85.6	89.3	90.6	91.3	3.78
SuperGlue	85.7	89.4	90.2	91.3	1.22
Svox_night	95.1	98.1	98.8	99.1	
SuperPoint+LightGlue	90.8	97.4	98.8	99.1	3.59

LoFTR	92.3	97.9	98.8	99.1	3.73
SuperGlue	90.0	97.6	98.5	99.1	1.33
Svox_day	96.5	99.4	99.6	99.6	
SuperPoint+LightGlue	95.8	99.3	99.5	99.6	3.58
LoFTR	96.7	99.4	99.5	99.6	3.76
SuperGlue	93.9	98.9	99.6	99.6	1.33

6.2

Thresholding:

Train DataSets:

VPR Model	Image Matching Model	Type	Threshold	R@1	R@5	R@10	R@20	Reranked	Time
SVOX_Night									

MegaLoc		Retrieval		91.17	95.73	97.44	98.43		
	LoFTR	Rerank		87.46	95.58	97.29	98.43		
		Adaptive	5	91.17	95.73	97.44	98.43	0	0
	SuperGlue	Rerank		86.89	95.87	97.72	98.43		
		Adaptive	6.10	92.45	96.15	97.72	98.43	10.1	1.33
NetVLAD		Retrieval		3.13	8.97	12.11	17.81		
	LoFTR	Rerank		13.68	15.24	16.24	17.81		
		Adaptive	406	13.68	15.24	16.24	17.81	99.9	3.725
	SuperGlue	Rerank		13.25	15.10	16.52	17.81		
		Adaptive	15	13.39	14.96	16.38	17.81	97.2	1.292
SVOX_Sun									
MegaLoc		Retrieval		94.52	97.89	89.31	98.60		
	LoFTR	Rerank		93.26	96.49	97.75	98.60		
		Adaptive	2	94.52	97.89	98.31	98.60	0	0

	SuperGlue	Rerank		90.59	96.21	97.19	98.60		
		Adaptive	0	94.52	97.89	98.31	98.60	0	0
NetVLAD		Retrieval		27.11	40.73	46.21	51.40		
	LoFTR	Rerank		48.74	50	50.84	51.40		
		Adaptive	134	48.74	50	50.84	51.40	82.3	3.07
	SuperGlue	Rerank		46.91	49.86	50.70	51.40		
		Adaptive	44.12	46.91	49.86	50.70	51.40	87.5	1.164

Validation DataSets:

VPR Model	Image Matching Model	Type	Threshold	R@1	R@5	R@10	R@20	Reranked	Time
SF									
MegaLoc		Retrieval		97.26	98.92	99.22	99.41		

	LoFTR	Rerank		92.89	97.34	98.59	99.41		
		Adaptive	5	97.26	98.92	99.22	99.41	0	0
	SuperGlue	Rerank		91.33	97.72	98.87	99.41		
		Adaptive	0	97.26	98.92	99.22	99.41	0	0
NetVLAD		Retrieval		53.22	67.55	73.33	78.98		
	LoFTR	Rerank		72.85	75.82	77.36	78.98		
		Adaptive	132	72.98	75.82	77.36	78.98	62.4%	2.328
	SuperGlue	Rerank		70.81	75.42	77.10	78.98		
		Adaptive	19	70.84	75.39	77.09	78.98	64.9%	0.864

Test DataSets:

Thresholds To test:

{

    (netvlal, loftr): 132,

    (netvlad, superglue): 19,

    (megaloc, loftr): 5,

    (megaloc, superglue): 6

}

VPR Model	Image Matching Model	Type	Threshold	R@1	R@5	R@10	R@20	Reranked	Time
Tokyo									
MegaLoc		Retrieval		94.92	97.46	98.41	99.05		
	LoFTR	Rerank		94.92	97.46	98.73	99.05		
		Adaptive	5	94.92	97.46	98.41	99.05	0	0
	SuperGlue	Rerank		94.92	97.46	98.41	99.05		
		Adaptive	6	95.24	98.10	98.73	99.05	5.4%	0.201
NetVLAD		Retrieval		49.84	62.54	70.48	78.73		
	LoFTR	Rerank		68.57	72.70	73.65	78.73		
		Adaptive	132	68.57	72.70	73.65	78.73	77.8%	2.901
	SuperGlue	Rerank		69.21	72.38	74.60	78.73		
		Adaptive	19	69.21	72.38	74.60	78.73	68.9%	2.57

				SF					
MegaLoc		Retrieval		86.70	89.90	90.8-	91.30		
	LoFTR	Rerank		85.60	89.20	90.5	91.30		
		Adaptive	5	86.70	89.90	90.80	91.30	0	0
	SuperGlue	Rerank		85.90	89.4	90.4	91.3		
		Adaptive	6	86.40	89.5	90.6	91.30	7.9%	0.295
NetVLAD		Retrieval		27.20	43.80	50.30	56.20		
	LoFTR	Rerank		53.60	55.30	55.80	56.2		
		Adaptive	132	53.60	55.30	55.8	56.2	83.4%	3.111
	SuperGlue	Rerank		52.60	55.10	56	56.20		
		Adaptive	19	52.60	55.10	56	56.2	82.7	3.08
				SVOX_Night					
MegaLoc		Retrieval		95.14	98.06	98.78	99.15		
	LoFTR	Rerank		92.47	98.06	98.78	99.15		

		Adaptive	5	95.14	98.06	98.78	99.15	0	0
	SuperGlue	Rerank		90.52	97.45	98.42	99.15		
		Adaptive	6	94.65	97.69	98.66	99.15	3.6%	0.136
NetVLAD		Retrieval		8.02	17.38	23.09	29.65		
	LoFTR	Rerank		25.64	27.83	28.55	29.65		
		Adaptive	132	25.64	27.83	28.55	29.65	96.4%	3.594
	SuperGlue	Rerank		24.54	26.97	27.95	29.65		
		Adaptive	19	24.54	26.85	27.83	29.65	93.1%	3.472
				SVOX_Sun					
MegaLoc		Retrieval		96.49	99.41	99.65	99.65		
	LoFTR	Rerank		96.72	99.41	99.41	99.65		
		Adaptive	5	96.49	99.41	99.65	99.65	0.1%	0.004
	SuperGlue	Rerank		94.26	98.95	99.65	99.65		
		Adaptive	6	95.90	99.30	99.65	99.65	1.5%	0.057

VPR Model	Image Matching Model	Type	cutoff	R@1	R@5	R@10	R@20	uncertainty	Random	Reranked	Time
NetVLAD		Retrieval		35.36	52.69	58.78	65.81				
	LoFTR	Rerank		61.48	63.47	64.52	65.81				
		Adaptive	132	61.48	63.47	64.52	65.81			73.7%	2.477
	SuperGlue	Rerank		60.66	52.69	58.78	65.81				
		Adaptive	19	60.3	63.23	64.40	65.81			67%	2.498

Logistic:

VPR Model	Image Matching Model	Type	cutoff	R@1	R@5	R@10	R@20	uncerainty	Random	Reranked	Time
						SF					
MegaLoc	LoFTR					Val					
		Rerank	0.83	92.89	97.34	98.59	99.41	0.446	0.027		
		Adaptive		97.26	98.92	99.22	99.41			0	0
						Test					
		Rerank	0.83	85.6	89.2	90.5	91.3	0.716	0.133		

		Adaptive		86.7	89.9	90.8	91.3			0	0
	SuperGlue	Val									
		Rerank	0.92	91.33	97.72	98.87	99.41	0.426	0.027		
		Adaptive		97.26	98.92	99.22	99.41			0	0
		Test									
		Rerank	0.92	85.9	89.4	90.4	91.3	0.73	0.133		
		Adaptive		86.7	89.9	90.8	91.3			0	0
NetVLAD	LoFTR	Val									
		Rerank	0.02	72.85	75.82	77.36	78.98	0.953	0.467		
		Adaptive		72.78	75.82	77.36	78.98			53.8%	2.03
		Test									
		Rerank	0.02	53.6	53.3	55.8	56.2	0.99	0.728		
		Adaptive		53.5	55.2	55.8	56.2			77.6%	2.933
	SuperGlue	Val									
		Rerank	0.47	70.81	75.42	77.10	78.98	0.95	0.467		

VPR Model	Image Matching Model	Type	cutoff	R@1	R@5	R@10	R@20	uncerainty	Random	Reranked	Time
		Adaptive		70.89	75.38	77.09	78.98			55.1%	2.085
		Test									
		Rerank	0.47	52.60	55.10	56	56.2	0.989	0.728		
		Adaptive		52.3	55.1	56	56.2			77.6%	2.93

VPR Model	Image Matching Model	Type	cutoff	R@1	R@5	R@10	R@20	uncerainty	Random	Reranked	Time
						Tokyo					
MegaLoc	LoFTR	Val									
		Rerank	0.83	92.89	97.34	98.59	99.41	0.446	0.027		
		Adaptive		97.26	98.92	99.22	99.41			0	0
		Test									

		Rerank	0.83	94.92	97.46	98.73	99.05	0.465	0.05		
		Adaptive		94.92	97.46	98.41	99.05			0	0
	SuperGlue	Val									
		Rerank	0.92	91.33	97.72	98.87	99.41	0.426	0.027		
		Adaptive		97.26	98.92	99.22	99.41			0	0
		Test									
		Rerank	0.92	93.65	97.46	98.73	99.05	0.516	0.5		
		Adaptive		94.92	97.46	98.41	99.05			0	0
NetVLAD	LoFTR	Val									
		Rerank	0.02	72.85	75.82	77.36	78.98	0.953	0.467		
		Adaptive		72.78	75.82	77.36	78.98			53.8%	2.03
		Test									
		Rerank	0.02	68.57	72.70	73.65	78.73	0.965	0.501		
		Adaptive		68.75	72.70	73.65				59.7%	2.256

VPR Model	Image Matching Model	Type	cutoff	R@1	R@5	R@10	R@20	uncerainty	Random	Reranked	Time
	SuperGlue	Val									
		Rerank	0.47	70.81	75.42	77.10	78.98	0.95	0.467		
		Adaptive		70.89	75.38	77.09	78.98			55.1%	2.085
		Test									
		Rerank	0.47	69.21	72.38	74.6	78.73	0.983	0.501		
		Adaptive		69.21	72.38	74.6	78.73			60%	2.26

VPR Model	Image Matching Model	Type	cutoff	R@1	R@5	R@10	R@20	uncerainty	Random	Reranked	Time
Svox_night											
MegaLoc	LoFTR	Val									
		Rerank	0.83	92.89	97.34	98.59	99.41	0.446	0.027		
		Adaptive		97.26	98.92	99.22	99.41			0	0

		Test									
		Rerank	0.83	92.47	98.06	98.78	99.15	0.421	0.048		
		Adaptive		95.14	98.06	98.78	99.15			0	0
	SuperGlue	Val									
		Rerank	0.92	91.33	97.72	98.87	99.41	0.426	0.027		
		Adaptive		97.26	98.92	99.22	99.41			0	0
		Test									
		Rerank	0.92	90.52	97.45	98.42	99.15	0.548	0.048		
		Adaptive		95.14	98.06	98.78	99.15			0	0
NetVLAD	LoFTR	Val									
		Rerank	0.02	72.85	75.82	77.36	78.98	0.953	0.467		
		Adaptive		72.78	75.82	77.36	78.98			53.8%	2.03
		Test									
		Rerank	0.02	25.64	27.83	28.55	29.65	0.998	0.919		

		Adaptive		25.64	27.70	28.43	29.65			93.8%	3.54
	SuperGlue	Val									
		Rerank	0.47	70.81	75.42	77.10	78.98	0.95	0.467		
		Adaptive		70.89	75.38	77.09	78.98			55.1%	2.085
		Test									
		Rerank	0.47	24.54	26.97	27.95	29.65	0.997	0.919		
		Adaptive		24.54	26.97	27.95	29.65			92.1%	3.481

VPR Model	Image Matching Model	Type	cutoff	R@1	R@5	R@10	R@20	uncerainty	Random	Reranked	Time
		Svox_sun									
MegaLoc	LoFTR	Val									
		Rerank	0.83	92.89	97.34	98.59	99.41	0.446	0.027		

		Adaptive		97.26	98.92	99.22	99.41			0	0
		Test									
		Rerank	0.83	96.72	99.41	99.41	99.65	0.263	0.035		
		Adaptive		96.49	99.41	99.65	99.65			0	0
	SuperGlue	Val									
		Rerank	0.92	91.33	97.72	98.87	99.41	0.426	0.027		
		Adaptive		97.26	98.92	99.22	99.41			0	0
		Test									
		Rerank	0.92	94.26	98.95	99.65	99.65	0.225	0.035		
		Adaptive		96.49	99.41	99.65	99.65			0	0
NetVLAD	LoFTR	Val									
		Rerank	0.02	72.85	75.82	77.36	78.98	0.953	0.467		
		Adaptive		72.78	75.82	77.36	78.98			53.8%	2.03
		Test									

			Rerank	0.02	61.48	63.47	64.52	65.81	0.995	0.646		
			Adaptive		61.12	63.47	64.52	65.81			67.8	2.56
		SuperGlue	Val									
			Rerank	0.47	70.81	75.42	77.10	78.98	0.95	0.467		
			Adaptive		70.89	75.38	77.09	78.98			55.1%	2.085
			Test									
			Rerank	0.47	60.66	63.23	64.40	65.81	0.992	0.643		
			Adaptive		59.48	63	64.17	65.81			64.3%	2.43